

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Parts 2, 73, 74, 80, 90, and 97 of	)	
the Commission's Rules to Implement Decisions	)	ET Docket No. 02-16
from World Radiocommunication Conferences	)	
Concerning Frequency Bands Below 28000 kHz	)	

**REPORT AND ORDER**

**Adopted: February 25, 2003**

**Released: March 3, 2003**

By the Commission:

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## I. INTRODUCTION

1. By this action, we are amending Parts 2, 73, 74, 80, 90, and 97 of our Rules to implement domestically various allocation decisions from International Telecommunication Union ("ITU") World Radiocommunication Conferences<sup>1</sup> concerning the frequency bands below 28000 kilohertz ("kHz").<sup>2</sup> This proceeding was initiated on our own motion and in response to a request from the National Telecommunications and Information Administration ("NTIA") to implement international allocation changes that had not previously been addressed.<sup>3</sup>

2. The most significant action taken here is the reallocation of several bands of high frequency ("HF")<sup>4</sup> spectrum from the fixed and mobile services<sup>5</sup> to the broadcasting service.<sup>6</sup> The long-range propagation characteristics of HF frequencies enable audio programs to be received directly by the general public in countries far from the country of origin, and thus high frequency broadcasting ("HFBC") is also known as international broadcasting. Specifically, we are making an additional 1640 kilohertz of spectrum available exclusively for use by international broadcast stations, with 850 kilohertz immediately available and the remainder available after a transition period that ends April 1, 2007. Until the completion of the transition period, fixed and mobile stations will be allowed to continue to operate on a primary basis; after that date, these stations will be allowed to continue to operate on the condition that "harmful interference" is not caused to the broadcasting service.<sup>7</sup> This action significantly increases the

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<sup>1</sup> These ITU conferences were the 1992 World Administrative Radio Conference ("WARC-92") and the 1995, 1997, and 2000 World Radiocommunication Conferences ("WRC-95," "WRC-97," and "WRC-2000," respectively). See *Final Acts of the World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (WARC-92)*, Malaga-Torremolinos, 1992 ("WARC-92 Final Acts"); *Final Acts of the World Radiocommunication Conference (WRC-95)*, Geneva, 1996 ("WRC-95 Final Acts"); *Final Acts of the World Radiocommunication Conference (WRC-97)*, Geneva, 1997 ("WRC-97 Final Acts"); and *Final Acts of the World Radiocommunication Conference (WRC-2000)*, Istanbul, 2000 ("WRC-2000 Final Acts").

<sup>2</sup> 28000 kHz may also be referred to as 28 megahertz ("MHz"). To be consistent with the nomenclature in the portion of the Table of Frequency Allocations, 47 C.F.R. § 2.106, that addresses this frequency range, frequencies are being expressed in terms of kilohertz herein. International allocation decisions concerning frequency bands above 28000 kHz will be considered in separate rulemakings.

<sup>3</sup> *Notice of Proposed Rule Making and Order*, 17 FCC Rcd 2728 (2002) (*Notice*). As part of the *Notice*, we included an Order stating that the Commission would no longer accept applications for new licenses or for modifications or renewals of existing licenses for frequencies in the 1605-1705 kHz band, to prevent the licensing of Industrial/Business Pool stations (which no longer have an allocation in the AM Expanded Band) during the pendency of this proceeding. Applicants with such pending applications were given the opportunity to specify other frequencies. See *Notice, supra* at 2741. See Letter to Chief, Office of Engineering and Technology, FCC, from Acting Associate Administrator, Office of Spectrum Management, NTIA, U.S. Department of Commerce, dated June 10, 1998, pp. 25, 27, 30, 31, 34, 36, 38, and 40.

<sup>4</sup> The frequency range from 3000 kHz to 30000 kHz is denoted as HF. See 47 C.F.R. § 2.101. It is often called the shortwave frequency range, and expressed in wavelengths, it lies between 100 meters and 10 meters. Thus, international broadcasting in this frequency range is also known as shortwave broadcasting.

<sup>5</sup> The fixed service is defined as a radiocommunication service between specified fixed points; a station in the fixed service is a fixed station. The mobile service is defined as a radiocommunication service between mobile and land stations, or between mobile stations. See 47 C.F.R. § 2.1.

<sup>6</sup> The broadcasting service is defined as a radiocommunication service in which the transmissions are intended for direct reception by the general public. *Id.* While this service may include sound transmissions, television transmissions or other types of transmissions, the narrow channel bandwidth assignments made in the HF bands limit broadcasting to sound transmissions.

<sup>7</sup> Interference is the effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception in a radiocommunication system, manifested by any performance degradation, misinterpretation, or

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amount of spectrum available to international broadcasters on a worldwide basis, thus facilitating the sharing of information and entertainment by people throughout the world. In addition, we are updating the Commission's rules for international broadcast stations (Part 73, Subpart F) in order to add the new frequency bands and to otherwise conform to international regulations.

3. We are also making various minor amendments to the United States Table of Frequency Allocations ("U.S. Table") and to several of our service rules. First, we are clarifying the status of land mobile and radiolocation services operating in the AM Expanded Band (1605-1705 kHz), particularly, by removing service rules for allocations that are no longer available. We are also permitting stations in the Part 90 Industrial/Business Pool of the private land mobile service and radiolocation service that are assigned frequencies in the band 1605-1705 kHz to continue to operate until the end of their current license term on a non-interference basis ("NIB") to AM radio stations and travelers' information stations ("TIS"), without an opportunity for renewal. In addition, we are permitting remote pickup broadcast stations to continue to operate in the band 26100-26175 kHz; removing outdated regulations in the aeronautical fixed and amateur radio services; and making new frequencies available for forest product licensees in limited geographic areas of the country. The actions herein will update our Rules for frequency bands below 28000 kHz so that they are more consistent with international regulations, update various rule parts to effect the allocation changes, and otherwise update rules that have not recently been reviewed. Only one comment was filed, and it supported certain aspects of the *Notice*.<sup>8</sup>

## II. DISCUSSION

### A. International Broadcast Frequencies

4. In the United States, international broadcast stations transmit on frequencies between 5950 kHz and 26100 kHz.<sup>9</sup> Numerous factors affect the reception of these transmissions, including atmospheric changes that vary with the time of day, climate, and atmospheric noise, as well as co-channel and adjacent channel interference from other international broadcast stations around the world. Unlike other broadcasting services where frequencies are assigned on a permanent basis, international broadcasters are assigned frequencies on a seasonal basis to account for changes in propagation conditions, changing programming needs, and interference conditions.

5. Though most international broadcast stations are operated by national governments, HFBC service originating in the United States is provided by both Federal Government-operated<sup>10</sup> and privately-operated stations.<sup>11</sup>

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loss of information which could be extracted in the absence of such unwanted energy. Harmful interference is interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with the ITU *Radio Regulations*. *Id.*

<sup>8</sup> One comment was filed jointly by Herald Broadcasting Syndicate, licensee of International Broadcast Station WSHB, and The National Association of Shortwave Broadcasters.

<sup>9</sup> See 47 C.F.R. § 73.701. This regulation is grounded in the general sub-section of Article 23 of the ITU *Radio Regulations* describing the broadcasting service. See ITU *Radio Regulations*, Edition of 1998 ("ITU Radio Regulations"), Article 23, No. 23.3.

<sup>10</sup> All Federal Government and Federal Government sponsored, non-military, international broadcasting has recently been consolidated under the Broadcasting Board of Governors ("BBG"). BBG's HF broadcasters are the Voice of America, Radio Free Europe/Radio Liberty, Radio Marti, and Radio Free Asia. See 1998 Foreign Affairs Reform and Restructuring Act (Public Law 105-277). For more information, see the "International Broadcasting Bureau"

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6. Internationally, 2930 kilohertz of spectrum<sup>12</sup> in eight HF frequency bands are currently available to the broadcasting service on a primary, exclusive basis.<sup>13</sup> Table 1 summarizes the international allocations for HF broadcasting that are now available internationally. Several of these bands were reallocated from the fixed service to HFBC at the 1979 World Administrative Radio Conference ("WARC-79"). In the *Notice*, the Commission proposed to delete the fixed service allocation from those bands to make that spectrum available exclusively to the broadcasting service in the United States. Additionally, the Commission proposed to implement domestically the 1992 World Administrative Radio Conference ("WARC-92") reallocation of 790 kilohertz<sup>14</sup> of additional spectrum in ten HF bands listed in Table 2 from the fixed and mobile services to the broadcasting service on a primary basis throughout the world, effective April 1, 2007.<sup>15</sup> It further proposed to add the WARC-79 and WARC-92 international broadcast bands to Part 73, Subpart F of the Rules.<sup>16</sup> Consistent with international footnote 5.147, the Commission proposed to adopt a new United States footnote that would allow Federal Government agencies to continue operating fixed stations in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz on the condition that harmful interference is not caused to the broadcasting service.<sup>17</sup>

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webpage at <http://www.ibb.gov/>. BBG is a Federal agency that is a member of the National Telecommunications and Information Administration's ("NTIA's") Interdepartment Radio Advisory Committee ("IRAC").

<sup>11</sup> The Commission licenses international broadcast stations to private entities under Part 73, Subpart F of its Rules. See 47 C.F.R. Part 73, Subpart F--International Broadcast Stations. For more information, see the "FCC HF Broadcasting Page" at [http://ftp.fcc.gov/ib/sand/neg/hf\\_web/hf.html](http://ftp.fcc.gov/ib/sand/neg/hf_web/hf.html).

<sup>12</sup> Prior to January 1, 1999, 2080 kilohertz of exclusive HFBC spectrum was allocated on a worldwide basis. This HFBC spectrum was divided into 207 channels, with the assumption of a 10 kilohertz spacing between HFBC channels in the same geographic area. These allocations have previously been added to Part 73, Subpart F of our Rules. On January 1, 1999, an additional 850 kilohertz of exclusive HFBC spectrum became available on a worldwide basis. On April 1, 2007, another 790 kilohertz of exclusive HFBC spectrum is planned to become available on a worldwide basis. Thus, by adopting these allocations domestically, there will ultimately be a 79% increase in exclusive HFBC spectrum, which would be divided into an additional 160 channels.

<sup>13</sup> See *Notice, supra* at 2732. In addition, the band 7100-7300 kHz is allocated to the broadcasting service on an exclusive basis in ITU Region 1 and Region 3. The ITU divides the world into three geographic Regions. The United States is in Region 2, which includes North and South America. In Region 2, the band 7100-7300 kHz is allocated to the amateur service on a primary basis, but its use "shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3." See 47 C.F.R. § 2.106, international footnote 5.142. See 47 C.F.R. § 2.104 for the official definition of the three ITU Regions.

<sup>14</sup> In the *Notice*, this amount was misstated as 690 kilohertz; see *Notice, supra* at 2732. Because of this error, the *Notice* also misstated the additional amount of spectrum proposed to be made available for exclusive use by international broadcast stations as 1540 kHz, rather than 1640 kHz; see *Notice, supra* at 2729.

<sup>15</sup> *Id.*, at 2732.

<sup>16</sup> *Id.*, at 2736.

<sup>17</sup> *Id.*, at 2736.

<b>Table 1: Exclusive International HFBC Allocations, Effective January 1, 1999</b>		
HFBC bands available prior to WARC-79	HFBC bands added at WARC-79, which became exclusive on January 1, 1999 <sup>18</sup>	HFBC bands now available for world-wide use (sum of columns 1 & 2)
5950-6200 kHz		5950-6200 kHz
9500-9775 kHz	9775-9900 kHz	9500-9900 kHz
11700-11975 kHz	11650-11700 and 11975-12050 kHz	11650-12050 kHz
	13600-13800 kHz	13600-13800 kHz
15100-15450 kHz	15450-15600 kHz	15100-15600 kHz
17700-17900 kHz	17550-17700 kHz	17550-17900 kHz
21450-21750 kHz	21750-21850 kHz	21450-21850 kHz
25600-26100 kHz <sup>19</sup>		25670-26100 kHz

<b>Table 2: Exclusive International HFBC Allocations, Effective April 1, 2007</b>			
HFBC Bands as of January 1, 1999	HFBC Bands added at WARC-92, which become effective on April 1, 2007	Transition Plan Footnotes	Worldwide HFBC Bands (Sum of Columns 1 & 2)
5950-6200 kHz	5900-5950 kHz	5.136	5900-6200 kHz
	7300-7350 kHz	5.143	7300-7350 kHz <sup>20</sup>
9500-9900 kHz	9400-9500 kHz	5.146, 5.147	9400-9900 kHz
11650-12050 kHz	11600-11650 and 12050-12100 kHz	5.146, 5.147	11600-12100 kHz
13600-13800 kHz	13570-13600 and 13800-13870 kHz	5.151	13570-13870 kHz
15100-15600 kHz	15600-15800 kHz	5.146	15100-15800 kHz
17550-17900 kHz	17480-17550 kHz	5.146	17480-17900 kHz
	18900-19020 kHz	5.146	18900-19020 kHz
21450-21850 kHz			21450-21850 kHz
25670-26100 kHz			25670-26100 kHz

7. In the *Notice*, the Commission proposed to maintain the existing direct U.S. Table allocations to the fixed and mobile services in the WARC-92 HFBC bands until the transition of the WARC-92 HFBC bands to exclusive broadcast use ends on April 1, 2007. This proposal was made at the request of NTIA, as indicated above, to highlight the existing use of these bands.<sup>21</sup> The Commission also proposed to adopt a new United States footnote in place of international footnotes 5.136, 5.143, 5.146, and 5.151 which address the transition of the WARC-92 bands to HFBC use.<sup>22</sup>

<sup>18</sup> These bands were allocated to the broadcasting service at the 1979 World Administrative Radio Conference ("WARC-79") and thus are known as WARC-79 HFBC bands; however, broadcasting use of these bands was on the basis that it does not cause harmful interference to the fixed service until the incumbent fixed stations could be relocated. See *Final Acts of the World Administrative Radio Conference, Geneva, 1979* ("WARC-79 Final Acts"), international footnote 531. At WRC-95, the WARC-79 HFBC allocations were made effective on an interim basis from January 1, 1996, taking into account that fixed service use of the WARC-79 bands could continue as described in footnote 5.148. See *WRC-95 Final Acts*, Resolution 529. At WRC-97, international footnote 5.148 was deleted to discontinue fixed service use of the WARC-79 bands, effective January 1, 1999. See *WRC-97 Final Acts*, Article 59.

<sup>19</sup> At WARC-79, the band 25600-25670 kHz was reallocated from the broadcasting service to the radio astronomy service. See ¶ 14, *infra*.

<sup>20</sup> In addition, the band 7100-7300 kHz is allocated to the broadcasting service on an exclusive basis in ITU Region 1 and Region 3.

<sup>21</sup> There are 1533 Federal Government and 205 non-Federal Government assignments in the WARC-92 HFBC bands.

<sup>22</sup> See *Notice*, *supra* at 2737.

8. The Commission further proposed to cease issuing licenses for new non-Federal Government stations in the fixed and mobile services in the WARC-92 HFBC bands on April 1, 2007, consistent with the proposed allocation changes for these services.<sup>23</sup> To implement this change in bands shared with the maritime services, the *Notice* proposed to add informational notes to Part 80 (the maritime service rules), stating that radioprinter use of the bands 5900-5950 kHz and 7300-7350 kHz and Alaska private-fixed station use of frequency 11601.5 kHz will be on the condition that harmful interference is not caused to HFBC.<sup>24</sup>

9. In the *Notice*, the Commission proposed to make amendments to the regulations for international broadcast stations in Part 73, Subpart F of the Commission's Rules to conform to current international provisions.<sup>25</sup> Specifically, the Commission proposed to amend Section 73.756(c) by revising the frequency tolerance of 0.0015 percent of the assigned frequency to the current ITU standard of 10 hertz.<sup>26</sup> It also proposed to revise various HFBC definitions in Section 73.701 of the Rules to reflect international requirements as specified in the 1997 World Radiocommunications Conference ("WRC-97") Final Acts.<sup>27</sup> Specifically, the Commission proposed in the *Notice* to revise definitions for international broadcast stations, coordinated universal time (UTC), day, schedule A, and schedule B. To protect radio astronomy operations, the Commission proposed to delete the band 25600-25670 kHz from the list of frequencies available to HFBC stations in Part 73 of the Rules. This proposal would conform our Rules to the ITU's Table of Frequency Allocations, and the band is not currently being used by HFBC stations. Also, the Commission proposed to clarify the manner in which the 7100-7300 kHz band may be used by international broadcast stations by removing outdated cross references to the ITU *Radio Regulations* and instead adding cross references to the Commission's Rules. Additionally, it proposed to replace the map depicting geographical zones for areas of reception ("target zone map") in Section 73.703 with the current ITU target zone map.<sup>28</sup> Finally, the Commission proposed to modify the last sentence of Section 73.766 to change the highest modulating frequency from 5 kilohertz to 4.5 kilohertz to reflect a long-standing international provision.<sup>29</sup>

10. Comments. Herald Broadcasting Syndicate, licensee of International Broadcast Station WSHB ("WSHB") and The National Association of Shortwave Broadcasters ("NASB") commented jointly on the proposals that were made regarding Part 73, Subpart F.<sup>30</sup> WSHB/NASB did not, however, comment on any of the allocation changes that the Commission proposed for international broadcast frequencies, nor did any other party. WSHB/NASB support amending Section 73.756(c) of the Rules regarding frequency tolerances for HFBC operation. However, they also express concern that the tighter tolerance will be a hardship, both technically and economically, to international broadcast stations that operate with older transmitters. They state that, in most instances, the international broadcast stations are non-profit, operate on a very conservative budget, and their transmitters are generally not designed to meet a high standard of tolerance. WSHB/NASB suggest that the Commission strongly consider

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<sup>23</sup> *Id.*, at 2737.

<sup>24</sup> *Id.*, at 2738.

<sup>25</sup> *Id.*, at 2739.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* See 47 C.F.R. §§ 73.701 (g)-(l).

<sup>28</sup> Area of reception ("target zone map") is defined as any geographic area smaller than a zone of reception in which the reception of particular programs is specifically intended and in which broadcast coverage is contemplated, such areas being indicated by countries or parts of countries. See 47 C.F.R. § 73.701.

<sup>29</sup> *Id.*, at 2740.

<sup>30</sup> See Comments of WSHB and NASB.

grandfathering transmitters built before January 1, 1989 to the old frequency tolerance standard of 0.0015 percent of the assigned frequency. They argue that in most cases this would not adversely affect the overall effectiveness of any broadcaster. They support our proposals to revise the HFBC definitions in Section 73.701, delete the broadcast band 25600-25670 kHz, and replace the map in Section 73.703 with the current ITU target zone map. They also support revising Section 73.702(f)(2) to remove the outdated cross-reference to the ITU *Radio Regulations*, but submit that use of the 7100-7300 kHz band by broadcasters and amateurs in different regions still needs to be resolved internationally. Also, they support our proposal to require that transmitters maintain a maximum modulating frequency of 4.5 kHz. In this regard, they state that there are sufficient audio shaping devices available today to allow the majority of older transmitters to be able to meet this requirement and conform to international standards. Finally, the Broadcasting Board of Governors (“BBG”) request that the Commission not adopt international footnote 5.134 domestically.<sup>31</sup> BBG argues that adopting this footnote, which limits the use of the WARC-92 HFBC bands to more spectrum efficient technologies such as single-sideband (“SSB”) emissions as recommended by the ITU-R, would limit flexibility and increase the cost of equipment.

11. Decision. We find that implementing the allocation changes from WARC-79 and WARC-92 concerning HFBC will significantly increase the amount of spectrum available for HFBC, and conform to international regulations. This will promote national interest around the world and increase the international communications provided by HFBC.

12. In order to provide for more effective use of the WARC-79 HFBC bands, we are adopting our proposal to delete the fixed service allocation from the WARC-79 HFBC bands to make these bands available exclusively to the broadcasting service. We are also adding these bands to our rules for international broadcast stations. These actions will provide international broadcasters with an additional 850 kilohertz of exclusive spectrum.<sup>32</sup> We anticipate that this will permit more HFBC stations to operate without interference from other services. To permit Federal Government agencies to continue operating existing fixed stations on a non-harmful interference basis in three of the WARC-79 HFBC bands, we are adopting footnote US367. US367 will read as follows:

US367 On the condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz may be used by Federal Government stations in the fixed service communicating within the United States and its insular areas that are authorized as of [effective date for the Report and Order]. Each such station shall be limited to a total radiated power of 24 dBW.

13. We are maintaining the existing Table allocations to the fixed and mobile services until the transition of the WARC-92 HFBC bands to the broadcasting service becomes effective on April 1, 2007. We anticipate that fixed and mobile use will continue to be the main use of these bands in the United States until the transition occurs. Accordingly, we are allocating this 790 kilohertz of spectrum to the broadcasting service on a shared primary basis with existing fixed and mobile services. Since we are maintaining the U.S. Table allocations for the fixed and mobile services, we are adopting a new U.S. footnote 366 to address the transition of these bands from fixed and mobile use to broadcasting use rather than international footnotes 5.136, 5.143, 5.146, and 5.151. After the 2007 transition date, we will allow incumbent fixed and mobile operations to continue to use the bands only within the United States on a non-harmful interference basis. US366 will read as follows:

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<sup>31</sup> See Notice, *supra* at 2738.

<sup>32</sup> As indicated in the Notice, there are no non-Federal Government fixed operations in the WARC-79 HFBC bands, so the removal of this allocation will not impact incumbent operations.

US366 On April 1, 2007, the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz shall be allocated exclusively to the broadcasting service. Beginning April 1, 2007, frequencies in these bands may be used by stations in the fixed and mobile services, communicating only within the United States and its insular areas, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies for fixed and mobile services, licensees shall be limited to the minimum power needed to achieve communications and shall take account of the seasonal use of frequencies by the broadcasting service published in accordance with Article 12 of the ITU *Radio Regulations*.

14. Consistent with changes being made to the allocation of the WARC-92 HFBC bands, we will cease to issue licenses for new non-Federal Government stations in the fixed and mobile services on April 1, 2007. We are adding informational notes to Part 80 (the maritime service rules) stating that radioprinter use of the bands 5900-5950 kHz and 7300-7350 kHz and Alaska private-fixed station use of the frequency 11601.5 kHz will be on the condition that harmful interference is not caused to HFBC. Finally, we agree with the BBG that limiting the use of the WARC-92 HFBC bands to SSB technology would limit flexibility and increase costs. BBG states that it is actively seeking the flexibility to use double sideband (“DSB”) transmitters in the WARC-92 HFBC bands as part of the United States’ preparation for the 2003 World Radiocommunication Conference (“WRC-03”). We agree with BBG that international broadcasters will not use SSB techniques because recent ITU studies demonstrate extremely limited availability of SSB receivers. As BBG asserts, SSB receivers are substantially more expensive than traditional DSB receivers, but do not provide any improvement in audio quality and thus, are unlikely to ever displace DSB receivers in the less developed nations.<sup>33</sup>

15. With regard to our rules for international broadcast stations, the record supports the proposals set forth in the *Notice*, and we are amending those rules as proposed. These changes will update our international broadcasting rules to reflect current practices and make them consistent with the ITU *Radio Regulations*. Specifically, we are amending Section 73.756(c) of our Rules by revising the frequency tolerance of 0.0015 percent of the assigned frequency to the current ITU standard of 10 hertz. Given that there are few HFBC stations and many are non-profit, we will grandfather existing stations that do not meet the new standard. Also, we are revising HFBC definitions in Section 73.701 of our Rules to reflect international requirements as specified in the *WRC-97 Final Acts*.<sup>34</sup> Currently, the band 25600-25670 kHz is used by radio astronomy service and not by HFBC stations. Therefore, we are deleting this band from the list of frequencies available to HFBC stations in Part 73 of our Rules. Our Rules will now agree with the ITU Table of Frequency Allocations and, thus, protect domestic radio astronomy observations in this frequency range. We are also clarifying the manner in which the 7100-7300 kHz band is to be used by international broadcast stations by adding cross references to our Rules, and we are replacing the target zone map in Section 73.703 with the current ITU target zone map. Finally, we are modifying the last sentence in Section 73.766 by changing the highest modulating frequency from 5 kilohertz to 4.5 kilohertz to reflect a long-standing international provision.<sup>35</sup>

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<sup>33</sup> *Id.*

<sup>34</sup> See Appendix A for the new HFBC 73.701 definitions.

<sup>35</sup> See *Final Acts of the World Administrative Radio Conference for the Planning of the HF Bands Allocated to the Broadcasting Service (HFBC-87)*, Geneva, 1987 (“HFBC-87 Final Acts”), Final Protocol, at Appendix 45, entitled “Double-Sideband (DSB) and Single-Sideband (SSB) System Specifications in the HF Bands Allocated Exclusively to the Broadcasting Service.” Appendix 45 has been re-numbered as Appendix 11. See ITU *Radio Regulations*, Appendix 11.



## B. AM Expanded Band

16. In 1983, the Commission began a process to improve and revitalize the AM broadcast radio service that included the expansion of its available frequencies from 535-1605 kHz to include the 1605-1705 kHz band ("AM Expanded Band").<sup>36</sup> At that time, the primary fixed, land mobile, maritime mobile, aeronautical radionavigation, and radiolocation allocations were deleted from the band 1605-1705 kHz. However, the service rules for these operations, which reference frequencies in this band, were inadvertently left in place. Therefore, in the *Notice*, the Commission proposed further changes to its Rules to clear the AM Expanded Band for broadcast operations.

17. Specifically, the Commission proposed to remove the frequency references to the band 1605-1705 kHz from Parts 74 and 90 of the Rules.<sup>37</sup> In conjunction with this proposal, the Commission froze non-TIS mobile authorizations in this band.<sup>38</sup> It also proposed to delete the secondary status radiolocation service from this band in the U.S. Table and remove related service rules from Part 90.<sup>39</sup> While our Rules have allowed requests by radiolocation stations operating in the band 1605-1705 kHz to be relocated to the band 1900-2000 kHz, two non-Federal Government radiolocation licensees continue to operate in this lower spectrum.<sup>40</sup> In the *Notice*, the Commission proposed to permit non-Federal Government Industrial/Business Pool mobile and radiolocation stations in this band to continue operation until the end of their current license term on a non-interference basis ("NIB") to AM and TIS stations, without an opportunity for renewal.<sup>41</sup> It also proposed a transition plan for Federal radiolocation operations in this band to protect AM radio and TIS reception.<sup>42</sup> These proposals were intended to open the AM Expanded Band for increased domestic broadcast use, protect the technical integrity of the AM Expanded Band, and minimize the impact on services being removed from the band.

18. We find that the public interest would be served by adopting the proposals for this band to provide additional cleared spectrum for the AM broadcast service to improve the technical integrity of the service and to remove conflicting regulations from our Rules. We also note that no commenting party addressed our proposals for the AM Expanded Band. As proposed in the *Notice*, we are removing obsolete service rules and frequency references for Parts 74 and 90 in this band in order to prevent

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<sup>36</sup> See *Amendment of Part 2 of the Commission's Rules Regarding Implementation of the Final Acts of the World Administrative Radio Conference, Geneva, 1979*, General Docket No. 80-739, *Second Report and Order*, FCC 83-511, rel. December 8, 1983, 49 FR 2357 (January 19, 1984). The 117 carrier frequencies assigned to AM broadcast stations begin at 540 kHz and progress in 10 kilohertz steps to 1700 kHz. The ten channels in the AM Expanded Band have been designated as regional channels and are assigned for use by Class B and Class D stations. See 47 C.F.R. §§ 73.14, 73.21, 73.26. Originally, the band 1605-1615 kHz was allocated to the Federal Government and non-Federal Government mobile service and its use was limited to the transmission of public service information from travelers' information stations ("TIS"). The Commission later reallocated the band 1605-1615 kHz from the non-Federal Government mobile service to the broadcasting service. Non-Federal Government TIS stations are now located between AM radio stations throughout the band 535-1705 kHz. In contrast, Federal Government TIS stations remain limited to the frequencies 530 kHz and 1610 kHz.

<sup>37</sup> See *Notice, supra* at 2741.

<sup>38</sup> *Id.*, at 2741.

<sup>39</sup> *Id.*, at 2742. See 47 C.F.R. § 2.106, footnote US238. In addition to this footnote allocation, there is a secondary direct Table allocation for the radiolocation service in the Federal Government Table.

<sup>40</sup> 47 C.F.R. § 90.103(c)(29) states that as of July 1, 1987, licensees of existing radiolocation systems in the sub-band 1605-1705 kHz of the band 1605-1800 kHz may request modification of their authorizations to change frequencies to the band 1900-2000 kHz.

<sup>41</sup> See *Notice, supra* at 2742-43.

<sup>42</sup> *Id.*, at 2742.

incompatible frequency authorizations. We are taking this action in follow-up to the Commission's deletion of the land mobile allocation from the band 1605-1705 kHz in 1983, in which frequencies within this band were inadvertently left in place in Parts 74 and 90 of our Rules. Specifically, we are removing the frequencies 1606 kHz, 1622 kHz, and 1646 kHz from Section 74.402(a)(1); the frequency 1630 kHz from Section 90.20(c)(3); the frequencies 1614 kHz, 1628 kHz, 1652 kHz, 1676 kHz, and 1700 kHz from Section 90.35(b)(3); and the band 1605-1705 kHz from Section 90.263. Consistent with our action removing frequencies 1606 kHz, 1622 kHz, and 1646 kHz from Section 74.402(a)(1), we are also eliminating all references to those frequencies from Sections 74.402(a) and 74.402(e)(1) and Section 74.462(b). As proposed in the *Notice*, mobile TIS stations will continue to be authorized throughout the AM Expanded Band as specified in Part 90 and Federal Government TIS stations operating on 1610 kHz will have primary status.

19. While there are currently no Public Safety or remote pickup licensees operating in the AM Expanded Band, four Industrial/Business Pool and two non-Federal Government radiolocation licensees operate in this band. As proposed, we are permitting these currently licensed stations to continue to operate on a non-interference basis to AM radio and TIS stations, until the end of their current license term with no provision for renewal. If we determine that any of the stations in the Industrial/Business Pool or radiolocation service is causing interference to either an AM radio or TIS station, we will require that Industrial/Business or radiolocation station to immediately cease transmission. We find that there is sufficient alternative spectrum to meet the needs of licensees<sup>43</sup> affected by this change and the Commission's staff will work with those licensees to help them find suitable alternative channels if the licensee desires. Also, no application fee will be charged to licensees of affected stations that apply for a modification to obtain alternative channels before the end of their license term.

20. In order to protect the technical integrity of the AM Expanded Band, we are deleting from the U.S. Table the Federal Government and non-Federal Government secondary radiolocation allocation in the band 1605-1705 kHz. We find that these radiolocation operations can be relocated to the band 1900-2000 kHz without significant impact to current operations. Consistent with this action, we are removing the band 1605-1705 kHz from the Radiolocation Service Frequency Table in Section 90.103 of our Rules and deleting unneeded assignment limitations. Finally, we have had discussions with NTIA concerning the Federal Government's radiolocation assignments in the sub-band 1615-1705 kHz. NTIA has agreed to relocate all Federal Government stations currently operating in the AM Expanded Band. NTIA has also agreed to relocate all of these assignments within one year of the adoption date of this Report and Order. We are allowing these Federal Government radiolocation stations to continue to operate during this one-year transition period on the condition that harmful interference is not caused to AM or TIS stations. Consistent with our agreement with NTIA, we are modifying footnote US238, as follows, to remove the secondary radiolocation allocation and allow Federal Government radiolocation service to operate for one year:

US238 On the condition that harmful interference is not caused to the reception of AM broadcast stations or to travelers' information stations, Federal Government stations in the band 1615-1705 kHz may continue operations until February 25, 2004.

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<sup>43</sup> See, e.g., 47 C.F.R. § 74.402(a), wherein 26 frequencies in the band 25670-26480 kHz are available for assignment to remote pickup broadcast stations; 47 C.F.R. § 90.20(c)(3), wherein the frequencies 1722 kHz and 1730 kHz are available for assignment to Public Safety Pool eligibles; and 47 C.F.R. § 90.35(a)(3), wherein any non-Federal Government land mobile band between 2000 and 25000 kHz is available for assignment to Industrial/Business Pool eligibles. In particular, Industrial/Business Pool eligibles should consult 47 C.F.R. §§ 90.263 and 90.266.

C. Continued Use of the Frequencies 26110 kHz, 26130 kHz, 26150 kHz, and 26170 kHz by Broadcast Auxiliary Remote Pickup Stations.

21. In 1983, the Commission reallocated the band 26100-26175 kHz from the land mobile service to the maritime mobile service,<sup>44</sup> and made several frequencies in this band available for public coast stations under Part 80 of the Rules. At that time, the Commission inadvertently left in four land mobile frequencies within the reallocated band in Part 74 of the Rules. Section 74.402(a) of the Rules continues to state that the following frequencies may be assigned for use by remote broadcast stations and broadcast network entities: 26110 kHz, 26130 kHz, 26150 kHz, and 26170 kHz.<sup>45</sup> Therefore, the Commission proposed changes to footnote US25 to allow remote pickup stations to use these frequencies on a secondary basis to public coast stations.<sup>46</sup> No commenter addressed our proposals for the continued use of the 26100-26175 kHz band by broadcast auxiliary remote pickup stations.

22. We are adopting our proposal to allow broadcast auxiliary stations to continue to use the band 26100-26175 kHz because use of the band by such stations is significant<sup>47</sup> and their secondary status will ensure that their operation will not hinder public coast stations. Moreover, a review of our licensing database shows that there are currently no public coast station licensees making use of these four maritime frequencies in this band. Allowing remote pickup stations in the four additional channels at 26100-26175 kHz will not impact maritime mobile operations and will allow for a greater use of the radio spectrum. We are revising footnote US25, which permits remote pickup broadcast stations in the 25850-26100 kHz band, to read as follows:

US25 The use of frequencies 26110 kHz, 26130 kHz, 26151 kHz, and 26172 kHz may be authorized to non-Federal Government remote pickup broadcast base and mobile stations on the condition that harmful interference is not caused to the reception of either international broadcast stations transmitting in the band 25850-26100 kHz or to coast stations transmitting in the band 26100-26175 kHz.

D. Maritime Services

23. In the *Notice*, the Commission proposed to update its allocations for the maritime service which is governed under Part 80 of the Rules. It proposed to reclassify footnote G121 in the U.S. Table, concerning the Maritime differential global positioning system (“DGPS”)<sup>48</sup> service in the band 285-325

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<sup>44</sup> See *Final Acts of the World Administrative Radio Conference, Geneva, 1979* (“WARC-79 Final Acts”), international footnote 531.

<sup>45</sup> 47 C.F.R. § 74.402(a).

<sup>46</sup> See *Notice, supra* at 2744.

<sup>47</sup> Our database also shows that there are 257 broadcast auxiliary stations authorized to use these channels.

<sup>48</sup> The U.S. Coast Guard (“USCG”) declared full operational capability of the Maritime DGPS Service on March 15, 1999. This system provides service for coastal coverage of the continental U.S., the Great Lakes, Puerto Rico, portions of Alaska and Hawaii, and portions of the Mississippi River basin. Maritime DGPS uses fixed GPS reference stations that broadcast pseudo-range corrections using maritime radiobeacons. The Maritime DGPS Service system provides radionavigation accuracy better than 10 meters for U.S. harbor entrance and approach areas. In addition, a Nationwide DGPS (“NDGPS”) Service is being established to provide coverage for all areas of the U.S. not currently covered by the USCG maritime DGPS Service. Positive Train Control, Intelligent Transportation systems, and precision agriculture are expected to receive benefits from the NDGPS Service. See 2001 *Federal Radionavigation Plan*, at pp. 1-9, 3-10, and 3-11, published by the Department of Defense and the Department of Transportation. This document is available to the public through the National Technical Information Service at [www.navcen.uscg.gov/pubs/frp2001/](http://www.navcen.uscg.gov/pubs/frp2001/).

kHz, as a United States footnote because the band is Federal Government/non-Federal Government shared spectrum.<sup>49</sup> Additionally, the Commission proposed to implement changes from WRC-97 that would create an additional NAVTEX<sup>50</sup> channel and clear spectrum for its use. Specifically, the Commission proposed to adopt international footnote 5.131 domestically, which would require that the frequency 4209.5 kHz be used exclusively for transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques.<sup>51</sup> It further proposed to adopt international footnote 5.79A domestically in order to ensure that NAVTEX operations coordinate operating characteristics in accordance with procedures of the International Maritime Organization.<sup>52</sup> Finally, the Commission proposed to delete footnote US236, which would delete the fixed service allocation in the bands 4000-4063 kHz and 8100-8195 kHz, to complete the transition of those bands to the maritime mobile service.<sup>53</sup> No commenter addressed our proposals for the maritime services.

24. As stated in the *Notice*, the band 285-325 kHz is allocated for use in the United States to the maritime radionavigation service on a primary basis, limited to radiobeacons.<sup>54</sup> These operations have been authorized by NTIA through footnote G121 of its *Manual*, but this footnote has not previously been coordinated with the Commission. Because this is Federal Government/non-Federal Government shared spectrum and both Federal Government and non-Federal Government entities will benefit from the use of DGPS systems, we are reclassifying this footnote as a new footnote US364 to read as follows:

US364 Consistent with US18,<sup>55</sup> stations may be authorized on a primary basis in the band 285-325 kHz for the specific purpose of transmitting differential global positioning system information.

25. Further, as proposed in the *Notice*, we are adopting international footnote 5.131 domestically. As indicated above, this footnote will authorize NAVTEX systems to use the 4209.5 kHz frequency exclusively for the transmission by coast stations of meteorological and navigational warnings and urgent information to ships by means of narrow-band direct-printing techniques. There are no incumbent users operating at this frequency. Thus, the USCG will have unencumbered access to this frequency to operate NAVTEX as a means of improving maritime safety broadcast service to mariners, as well as filling gaps in coverage of similar information broadcasts on the International NAVTEX

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<sup>49</sup> See *Notice, supra* at 2745; see also 47 C.F.R. § 2.106.

<sup>50</sup> NAVTEX is an international, automated system for providing coordinated broadcast and automatic reception of maritime navigational warnings, weather forecast and warnings, search and rescue notices and similar information by means of narrow-band direct printing telegraphy. Currently, several NAVTEX stations are operating on the frequency 518 kHz.

<sup>51</sup> See *Notice, supra* at 2746.

<sup>52</sup> *Id.*, at 2746.

<sup>53</sup> *Id.*, at 2746.

<sup>54</sup> Navigational aids in the United States in the band 190-415 kHz are normally operated by the Federal Government. See 47 C.F.R. § 2.106, footnote US18.

<sup>55</sup> 47 C.F.R. § 2.106, footnote US18 reads as follows: "Navigation aids in the U.S. and possessions in the bands 9-14 kHz, 90-110 kHz, 190-415 kHz, 510-535 kHz, and 2700-2900 MHz are normally operated by the Federal Government. However, authorizations may be made by the FCC for non-Federal Government operation in these bands subject to the conclusion of appropriate arrangements between the FCC and the Government agencies concerned and upon special showing of need for service which the Federal Government is not yet prepared to render."

frequency 518 kHz.<sup>56</sup> Also, at the request of NTIA, we are adopting international footnote 5.79A domestically so that the operating characteristics of established stations in the NAVTEX service can be coordinated by the Federal Government with other administrations consistent with the procedures of the International Maritime Organization.

26. In February 1999, the Global Maritime Distress and Safety System ("GMDSS") took effect, and, as a result, the ITU reduced the guard band for the distress and calling frequency at 500 kHz from 20 kilohertz to 10 kilohertz.<sup>57</sup> The Commission has since deleted the 500 kHz frequency from its maritime rules as a distress and safety frequency, but kept this frequency available for Morse radiotelegraph functions.<sup>58</sup> At WRC-03, Member States will consider whether non-GMDSS requirements should be maintained in the ITU *Radio Regulations*.<sup>59</sup> Until WRC-03 decides whether to maintain non-GMDSS requirements, we are updating our Rules by re-numbering international footnote 472 as 5.83 in the U.S. Table as proposed in the *Notice*.<sup>60</sup>

27. Finally, with regard to our proposal to delete footnote US236, we observe that prior to WARC-79, internationally the bands 4000-4063 kHz and 8100-8195 kHz were allocated exclusively to the fixed service. In the Commission's WARC-79 implementation proceeding, footnote US236 was adopted to implement the ITU resolution addressing the transition of these bands to the maritime mobile service. However, since WARC-79 the band 4000-4063 kHz internationally is still used primarily by the fixed service and the band 8100-8195 MHz has equal use by the fixed and maritime mobile services. Further, the ITU has removed the resolution that facilitated the change of these bands to the maritime mobile service and its radio regulations maintain the fixed and maritime mobile service allocations in these bands on a co-primary basis. Therefore, we will remove US236 and reinstate the direct U.S. Table fixed service allocation for the 4000-4063 kHz and 8100-8195 kHz bands on a primary basis to match the ITU table.

28. Until WRC-03 decides whether to maintain non-GMDSS requirements, we are also renumbering international footnotes 472A and 474 as 5.82 and 5.84, respectively, in our U.S. Table to reflect ITU changes.

#### E. Aeronautical Fixed Service

29. Regarding the aeronautical fixed service,<sup>61</sup> in the *Notice* the Commission proposed to delete the limitation on use of the 160-190 kHz band to aeronautical fixed use from our Rules because this

<sup>56</sup> See Comments of the United States Coast Guard in WT Docket No. 00-48, received August 23, 2000, p. 19.

<sup>57</sup> See 47 C.F.R. § 80.5 and § 80.1077. GMDSS is the distress and safety system adopted by the International Maritime Organization (IMO). It is designed so that search and rescue authorities will be alerted to a distress incident efficiently and quickly, so that they can assist in a coordinated search and rescue operation with minimal delay. GMDSS also provides maritime safety information to ships; information such as, forecasts, meteorological and navigation warnings, and other pertinent information necessary for the safety of ships.

<sup>58</sup> See Report and Order and Further Notice of Proposed Rule Making, 17 FCC Rcd 6760-61 at ¶ 45.

<sup>59</sup> See ITU Council Document c2000/88-E, Resolution 1156, Agenda Item 1.9, wherein WRC-03 will consider Appendix 13 and Resolution 331 (Rev. WRC-97) with a view to their deletion and, if appropriate, to consider related changes to Chapter VII and other provisions of the ITU *Radio Regulations*, as necessary, taking into account the continued transition and introduction of the GMDSS.

<sup>60</sup> See *Notice*, *supra* at 2746.

<sup>61</sup> The aeronautical fixed service is a radiocommunication service between specified fixed points provided primarily for the safety of air navigation and for the regular, efficient and economical operation of air transport. See 47 C.F.R. § 87.5.

band is currently unused by the aeronautical fixed service. This was proposed in response to decisions made at WRC-95 which removed the limitation on the use of the aeronautical fixed service allocation in Region 2 polar areas at 160-190 kHz, thus making the band available worldwide for all fixed uses.<sup>62</sup> No commenter addressed this proposal. We are adopting our proposal to remove the limitation in footnote 459 on use of the 160-190 kHz band to aeronautical fixed use and will allow all eligible fixed services to access this band. This action will bring our domestic rules in line with the ITU *Radio Regulations* and open the band for utilization of this spectrum by other potential users. We note that this band is also used by Power Line Carrier (“PLC”) systems, which are important to the reliability and security of electric service to the public. We note that the aeronautical limitation for the fixed service we are lifting only affects Region 2 polar areas and that PLC uses will be coordinated with fixed use of the band; therefore, we find that lifting the aeronautical limitation will not harm the nation’s power network.

30. WRC-95 also adopted international footnote 5.155B, which limits most fixed use of the band 21870-21924 kHz to the provision of services related to aircraft flight safety. The band 21850-21924 kHz is Federal Government/non-Federal Government shared spectrum that is allocated to the fixed service on a primary basis. In the *Notice*, the Commission proposed not to adopt domestically the limitations of 5.155B because the Federal Aviation Administration (“FAA”) has indicated that it does not intend to implement an aircraft safety service in this band and because there was no apparent domestic support for the adoption of this international footnote.<sup>63</sup> Accordingly, we will not implement footnote 5.155B domestically, but will maintain the footnote in the International Table for informational purposes.

#### F. Amateur Service

31. In the *Notice*, the Commission proposed to delete international footnote 5.120 and Section 97.401(b) from the Rules.<sup>64</sup> These rule sections reference ITU Resolution No. 640,<sup>65</sup> which invited administrations to provide for the needs of international disaster communications and for the needs of emergency communications within their national regulations using certain amateur bands.<sup>66</sup> However, WRC-97 and WRC-2000 deleted Resolution 640 and international footnote 5.120, respectively.<sup>67</sup> No commenter addressed this proposal.

32. Because ITU Resolution No. 640 and international footnote 5.120 have been removed from the ITU *Radio Regulations*, we will delete footnote 5.120 and Section 97.401(b), from our Rules. We do not think this will have an impact on the amateur service emergency communications because Sections 97.111(a)(1)<sup>68</sup> and 97.101(c)<sup>69</sup> of our Rules allow amateur stations to communicate with foreign

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<sup>62</sup> See *Notice, supra* at 2747.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*, at 2748.

<sup>65</sup> See *WARC-79 Final Acts* at p. 837.

<sup>66</sup> International footnote 5.120 lists the amateur bands that are to be used in the event of natural disaster: 3500 kHz, 7000 kHz, 10100 kHz, 14000 kHz, 18068 kHz, 21000 kHz, 24890 kHz, and 144000 kHz.

<sup>67</sup> See *WRC-2000 Final Acts* at p. 7.

<sup>68</sup> 47 C.F.R. § 97.111(a)(1) reads as follows: “(a) An amateur station may transmit the following types of two-way communications: (1) Transmissions necessary to exchange messages with other stations in the amateur service, except those in any country whose administration has given notice that it objects to such communications. The FCC will issue public notices of current arrangements for international communications.”

<sup>69</sup> 47 C.F.R. § 97.101(c) reads as follows: “At all times and on all frequencies, each control operator must give priority to stations providing emergency communications, except to stations transmitting communications for training drills and tests in RACES.”

stations in disaster areas, making the provisions based on the former ITU Resolution No. 640 unnecessary.

G. Frequencies Available for Forest Products Licensees

33. In the *Notice*, the Commission pointed out that the band 27540-28000 kHz is Federal Government exclusive spectrum that is allocated to the fixed and mobile services, except that footnote US298 permits limited non-Federal Government use by forest product licensees in certain geographic areas on channels 27555 kHz, 27615 kHz, 27635 kHz, 27655 kHz, 27765 kHz, and 27860 kHz. The Commission proposed to make editorial revisions to footnote US298 to conform to Part 90 terminology for mobile operations and to add the frequencies listed in the footnote to the Industrial/Business Radio Pool Frequency Table in Section 90.35.<sup>70</sup> No commenter addressed the proposal regarding footnote US298.

34. We are revising footnote US298 to agree with terminology now used in Part 90 of our Rules and we are adding the frequencies indicated in the footnote to the Industrial/Business Radio Pool Frequency Table in Section 90.35, with an appropriate note describing the limited use that is permitted. This action will not change any regulatory requirements, but merely makes our Rules easier to understand. The revised footnote US298 reads as follows:

US298 Channels 27555 kHz, 27615 kHz, 27635 kHz, 27655 kHz, 27765 kHz, and 27860 kHz are available for use by forest product licensees on a secondary basis to Federal Government operations including experimental stations. Non-Federal Government operations on these channels will not exceed 150 watts output power and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

H. Ministerial Conforming Amendments

35. In the *Notice*, the Commission proposed numerous non-substantive actions to update and correct the U.S. Table with regards to frequency allocations below 28000 kHz.<sup>71</sup> The Commission also proposed to make various editorial changes to U.S. footnotes to conform to previous decisions and to update the material in certain rule parts. The purpose of these proposed actions is to remove unnecessary material from the Rules and to reflect WRC-2000 Final Acts with regard to the International Table of Frequency Allocations within the Rules. We note that no commenter addressed the proposals for non-substantive changes to the U.S. Table.

36. We are adopting our proposal to remove international footnote 5.60 from the bands 70-90 kHz and 110-130 kHz because this footnote addresses a limitation on an allocation that was never made domestically. Further, we are adopting our proposal to remove the superfluous international footnote 5.80 from the band 415-435 kHz because it addresses limitations that do not apply to this band. We are also adopting our proposal to delete the secondary direct U.S. Table allocation for the space research service in the band 19990-19995 kHz because this allocation is also contained in footnote G106, which was recently added to the band 19990-20010 kHz.<sup>72</sup> This action is being taken to correct a typographical error made in previous updates of the U.S. Table in the frequency band 19990-19995 kHz. We are also adopting our

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<sup>70</sup> See *Notice*, *supra* at 2748.

<sup>71</sup> See 47 C.F.R. § 2.106.

<sup>72</sup> This footnote was added to the band in 1998. See Letter from Acting Associate Administrator, Office of Spectrum Management, NTIA, to Chief, Office of Engineering and Technology, FCC, received September 24, 1998.

proposal to update footnote US82 by deleting maritime channels that were reallocated for other purposes in 1991, thus indicating clearly the channels that are available for ship and coast station operations.

37. Further, we are adopting our proposal to add an informational note to Section 90.35 stating that the use of frequencies 25120 kHz, 25140 kHz, 25160 kHz, 25180 kHz, and 25200 kHz is on a secondary basis to stations in the maritime mobile service (Part 80). In footnote US281, we are changing the band “25.07-25.11 MHz” to “25070-25210 kHz” and are updating “industrial radio service” and “Forest Products Radio Service” to “Industrial/Business Pool.” Therefore, footnote US281, as revised in the previous statement, reads as follows:

US281 In the band 25070-25210 kHz, non-Federal Government stations in the Industrial/Business Pool shall not cause harmful interference to, and must accept interference from, stations in the maritime mobile service operating in accordance with the Table of Frequency Allocations.

Limitation 9 in 47 C.F.R. § 90.35 states this fact about footnote US281 and is now added to the frequencies 25120 kHz, 25140 kHz, 25160 kHz, 25180 kHz, and 25200 kHz.

38. Additionally, we are adopting our proposal to update rule part cross references in the U.S. Table; specifically deleting approximately 50 cross references to the International Fixed Public Radiocommunication Services (“IFPRS”) that no longer exists. Finally, we are adopting the proposal to update 18 international country footnotes for informational purposes because they do not apply to Region 2.<sup>73</sup>

### III. PROCEDURAL MATTERS

#### A. Final Regulatory Flexibility Analysis

39. The Final Regulatory Flexibility Analysis, required by the Regulatory Flexibility Act,<sup>74</sup> is contained in Appendix A.

#### B. Final Paperwork Reduction Act of 1995 Analysis

40. This Report & Order contains an information collection subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It has been submitted to the Office of Management and Budget (OMB) for review under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new information collection contained in this proceeding.

#### C. Further Information

41. For additional information concerning this Report and Order, contact the Office of Engineering and Technology - Shameeka Parrott at 202-418-2062, or via the Internet at sparrott@fcc.gov.

### V. ORDERING CLAUSES

42. Accordingly, IT IS ORDERED that pursuant to Sections 1, 4, 301, and 303, of the Communications Act of 1934, as amended, 47 U.S.C. Sections 151, 154, 301, and 303, this *Report and Order* and the rules specified in Appendix B ARE ADOPTED.

<sup>73</sup> See Notice, *supra* at 2749-50.

<sup>74</sup> See 5 U.S.C. § 604.



43. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, shall send a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

**APPENDIX A: FINAL REGULATORY FLEXIBILITY ANALYSIS**

As required by the Regulatory Flexibility Act (RFA),<sup>75</sup> the Commission incorporated an Initial Regulatory Flexibility Analysis (IRFA) in the Notice of Proposed Rulemaking and Order (“*Notice*”), ET Docket No. 02-16.<sup>76</sup> The Commission sought written public comments on the proposals in the *Notice*, including the IRFA. The present Final Regulatory Flexibility Analysis (“FRFA”) in this Report and Order conforms to the RFA, as amended by the Contract With America Advancement Act of 1996 (“CWAAA”), Pub. L. No. 104-121, 110 Stat. 847 (1996).

**(A) Need for, and Objectives of this Report and Order.**

By this action, the Commission reallocates 1640 kilohertz of spectrum from the fixed and mobile services to the broadcasting service. This action provides exclusive availability to broadcasting service in the HFBC bands. The Commission is making consequential changes to various service rules that will update the Rules for bands below 28000 kHz, so that they better comport with international regulations. Finally, this action will clarify the status of services in the AM Expanded Band (1605-1705 kHz).

**(B) Summary of Significant Issues Raised by Public Comments in Response to the IRFA.**

In the *Notice*, the Commission performed an IRFA and asked for comments that specifically addressed issues raised in the IRFA. No parties filed comments directly in response to the IRFA.

**(C) Description and Estimate of the Number of Small Entities to Which Rules Will Apply.**

The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the action taken.<sup>77</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>78</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>79</sup> A small business concern is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration (“SBA”).<sup>80</sup> A small organization is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>81</sup> Nationwide, as of 1992, there were approximately 275,801 small organizations.<sup>82</sup> Finally,

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<sup>75</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the small Business Regulatory Enforcement Fairness act of 1996 (SBREFA).

<sup>76</sup> See *Notice of Proposed Rule Making and Order*, 17 FCC Rcd 2789 (2002)

<sup>77</sup> 5 U.S.C. § 603(b)(3).

<sup>78</sup> *Id.* § 601(6).

<sup>79</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.” 5 U.S.C. § 601(3).

<sup>80</sup> Small Business Act, 15 U.S.C. § 632.

<sup>81</sup> 5 U.S.C. § 601(4)

<sup>82</sup> 1992 Economic Census, U.S. Bureau of the Census, Table 6 (special tabulation of data under contract to Office of Advocacy of the U.S. Small Business Administration).

“small governmental jurisdiction” generally means “governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000.”<sup>83</sup> As of 1992, there were approximately 85,006 such jurisdictions in the United States.<sup>84</sup> This number includes 38,978 counties, cities, and towns; of these, 37,566, or 96 percent, have populations of fewer than 50,000.<sup>85</sup> The United States Bureau of the Census (Census Bureau) estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (91 percent) are small entities.

**Fixed Service.** The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of Paging<sup>86</sup> and Cellular and Other Wireless Telecommunications.<sup>87</sup> Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1320 firms in this category, total, that operated for the entire year.<sup>88</sup> Of this total, 1303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.<sup>89</sup> Thus, under this category and associated small business size standard, the great majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.<sup>90</sup> Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.<sup>91</sup> Thus, under this second category and size standard, the great majority of firms can, again, be considered small.

Focusing more closely on the present context, we note that there are 162 fixed assignments authorized under Section 90.266 for long distance communications,<sup>92</sup> Alaska private-fixed assignments,<sup>93</sup> and 5 aeronautical fixed station assignments<sup>94</sup> that operate in the bands that are being reallocated pursuant this Report and Order. Using the above small business size standard, we believe that most of the Section 90.266 licensees are telephone, gas, and power companies that are not small businesses. Because we estimate that most of these fixed service licensees would not qualify as small entities under the SBA definition, we estimate that fewer than 184 small entities will be impacted by the reallocation.

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<sup>83</sup> 5 U.S.C. 601(5).

<sup>84</sup> U.S. Dept. of Commerce, Bureau of the Census, “1992 Census of Governments.”

<sup>85</sup> *Id.*

<sup>86</sup> 13 CFR § 121.201, NAICS code 513321 (changed to 517211 in October 2002).

<sup>87</sup> 13 C.F.R. § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

<sup>88</sup> U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Employment Size of Firms Subject to Federal Income Tax: 1997,” Table 5, NAICS code 513321 (issued Oct. 2000).

<sup>89</sup> *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1,000 employees or more.”

<sup>90</sup> U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Employment Size of Firms Subject to Federal Income Tax: 1997,” Table 5, NAICS code 513322 (issued Oct. 2000).

<sup>91</sup> *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is “Firms with 1,000 employees or more.”

<sup>92</sup> 47 C.F.R. § 90.266.

<sup>93</sup> 47 C.F.R. Part 80, Subpart O—Alaska Fixed Stations.

<sup>94</sup> 47 C.F.R. §§ 87.275, 87.277, 87.279.

Maritime Service. Small businesses in the marine radio service use a very high frequency (VHF) marine radio and, as appropriate, an emergency position-indicating radio beacon (and/or radar). The Commission has not developed a special small business size standard for these businesses. We therefore utilize the SBA size standard for the category, "Cellular and Other Telecommunications," which encompasses companies that have 1,500 or fewer employees.<sup>95</sup> Census data for this category, including the small business breakout, are provided above in the "Fixed Service" discussion. Most applicants for recreational licenses are individuals. Approximately 581,000 ship station licensees (including individuals) operate domestically and are not subject to the radio carriage requirements of any statute or treaty. We also note that, during the period of December 3-14, 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875-157.4500 MHz (ship transmit) and 161.775-162.0125 MHz (coast transmit) bands. For purposes of the auction, the Commission defined a "small" business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$15 million dollars. In addition, a "very small" business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$3 million dollars.<sup>96</sup> There are approximately 10,672 licensees in the Marine Coast Service, and the Commission estimates that almost all of them qualify as "small" businesses under the above special small business size standards.

Focusing more closely on the present context, we note that there are four public coast stations and four private coast stations licensees that operate in the bands being reallocated, and we estimate that almost all of them qualify as small under the SBA size standard.

International Broadcast Stations. The SBA defines a television broadcasting station that has no more than \$12.0 million in annual receipts as a small business.<sup>97</sup> Television broadcasting stations consist of establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services. Included in this industry are commercial, religious, educational, and other television stations. Also included are establishments primarily engaged in television broadcasting and which produce taped television program materials. There were 1,695 full-service television stations operating in the as of December 2001. According to Census Bureau data for 1997, there were 906 Television Broadcasting firms, total, that operated for the entire year. Of this total, 734 firms had annual receipts of \$9,999,999.00 or less and an additional 71 had receipts of \$10 million to \$24,999,999.00. Thus, under this standard, the majority of firms can be considered small.

The SBA defines a radio broadcasting station that has no more than \$6 million in annual receipts as a small business.<sup>98</sup> A radio broadcasting station is an establishment primarily engaged in broadcasting aural programs by radio to the public. Included in this industry are commercial, religious, educational, and other radio stations. Radio broadcasting stations which primarily are engaged in radio broadcasting and which produce radio program materials are similarly included. According to Census Bureau data for 1997, there were 4,476 Radio Stations (firms), total, that operated for the entire year. Of this total 4,265 had annual receipts of \$4,999,999.00 or less, and an additional 103 firms had receipts of \$5 million to \$9,999,999.00. Thus, under this standard, the great majority of firms can be considered small.

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<sup>95</sup> 13 CFR § 121.201, NAICS code 513322 (changed to 517212 in October 2002).

<sup>96</sup> *Amendment of the Commission's Rules Concerning Maritime Communications*, PR Docket No. 92-257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

<sup>97</sup> CFR § 121.201, NAICS code 513120 (changed to 515120 in October 2002).

<sup>98</sup> CFR § 121.201, NAICS code 513112 (changed to 515112 in October 2002).

Focusing more closely on the present context, the transmissions of international broadcast stations are intended to be received directly by the general public in foreign countries.<sup>99</sup> There are 24 international broadcast licensees, and we estimate that almost all of them qualify as small under the SBA size standards.

Private Land Mobile Radio Services. The Commission has not adopted a special small business size standard for private land mobile radio service licensees.<sup>100</sup> We will therefore utilize the size standards and census data small business breakouts as provided above in the “Fixed Service” discussion. This means that such entities are considered small if they employ no more than 1,500 persons. There are 4 Industrial/Business Pool licensees and 2 radiolocation licensees in the AM Expanded Band, and we believe that none of them qualify as small under the SBA size standards.

**(D) Description of Projected Reporting, Recordkeeping and Other Compliance Requirements for Small Entities.**

No new reporting or recordkeeping requirements are imposed on small entities. However, we are creating three compliance requirements that may have a significant economic burden on small entities. First, if fixed or coast station licensees determine that they can not operate in the WARC-92 HFBC bands without causing harmful interference to international broadcast stations, the licensees have to move to other fixed or mobile frequencies. Those fixed and coast station licensees that move to other assigned frequencies would have to pay a license modification fee if they do not request such frequencies during renewal.<sup>101</sup> We note that 162 of the 205 assignments in these bands operate on a non-interference, unprotected basis internationally and that our rules do not change their status.<sup>102</sup> In contrast, the status of the remaining 43 assignments will be affected by the allocation, that is, these primary and protected assignments would be downgraded to non-interference, unprotected status. These 43 assignments can be more specifically classified as 21 coast station, 17 Alaska private-fixed, and 5 aeronautical fixed assignments. We believe that all of the affected stations use equipment that can be tuned to other HF bands allocated to the fixed or mobile services and that there is sufficient allocated spectrum available for this purpose. Accordingly, we believe that any relocation costs would be *de minimus*. Secondly, we are “grandfathering” or allowing users of transmitters built on or before 1989 to be held only to the old standard of frequency control.<sup>103</sup> Any international broadcast station after this date will have a stricter frequency control tolerance. This requirement may cause some of our licensees to have to modify their equipment.

The band 1605-1705 kHz was reallocated from the land mobile service to the broadcasting service in 1983. However, there are four Industrial/Business Pool licensees in the AM Expanded band. In addition, there are two radiolocation licensees operating in the AM Expanded band on a secondary basis. In this Report and Order, we are permitting these currently licensed stations to continue operation until the end of their current license term on a non-interference basis (“NIB”) to AM and travelers’ information stations (“TIS”), without an opportunity for renewal.<sup>104</sup>

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<sup>99</sup> See 47 C.F.R. § 73.701.

<sup>100</sup> The service is defined in Part 90 of the Commission’s Rules, 47 C.F.R. Part 90.

<sup>101</sup> See *Report and Order*, ¶ 19.

<sup>102</sup> See 47 C.F.R. § 2.102(h) of the Commission’s Rules for the special provisions regarding the use of spectrum allocated to the fixed and land mobile services below 25 MHz by non-Federal Government stations.

<sup>103</sup> See ¶ 15, *supra*.

<sup>104</sup> See ¶¶ 17-19, *supra*.

**(E) Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered.**

One significant alternative that we considered was whether or not to allow the few high frequency broadcast (“HFBC”) stations, many of which are non-profit, a longer time to transition from outdated equipment. This transition relief will be necessary in instances in which equipment cannot maintain the stringent tolerance required by the amended rule. We have determined in this Report and Order to grandfather existing international broadcast stations at their current frequency tolerance.<sup>105</sup> This will assist such non-profits, including small entities, by providing relief from the rule as revised. Also, with regard to small entities and others operating in the AM Expanded Band, Commission staff will work with affected licensees to help them find suitable alternative channels if the licensee desires.<sup>106</sup> No fee will be charged to licensees of affected stations that apply for modification for alternative channels before the end of their license term.

**(F) Report to Congress**

The Commission will send a copy of this Final Regulatory Flexibility Analysis, along with this Report and Order, in a report to be sent to Congress pursuant to the Congressional Review Act, 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of this Report and Order, including this FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of this Report and Order including FRFA (or summaries thereof), will also be published in the Federal Register. See 5 U.S.C. § 604(b).

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<sup>105</sup> See ¶ 15, *supra*.

<sup>106</sup> See ¶ 19, *supra*.

**APPENDIX B: Final Rules**

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR Parts 2, 73, 74, 80, 90, and 97 as follows:

**PART 2 -- FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

- a. Revise pages 1 through 21.

- b. In the list of International Footnotes, under II. Old Numbering Scheme, remove footnotes 459, 471, 472, 472A, 474, and 480.

- c. In the list of United States (US) Footnotes, revise footnotes US18, US25, US82, US104, US225, US231, US238, US281, US282, US283, US298, US321, US340, and US342; remove footnotes US235 and US236; and add footnotes US364, US366, and US367.

The additions and revisions read as follows:

**§ 2.106 Table of Frequency Allocations.**

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0-130 kHz (VLF/LF)					Page 1
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
Below 9 (Not Allocated)			Below 9 (Not Allocated)		
5.53 5.54			5.53 5.54		
9-14 RADIONAVIGATION			9-14 RADIONAVIGATION US18 US294		
14-19.95 FIXED MARITIME MOBILE 5.57 5.55 5.56			14-19.95 FIXED MARITIME MOBILE 5.57 US294	14-19.95 Fixed US294	
19.95-20.05 STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)			19.95-20.05 STANDARD FREQUENCY AND TIME SIGNAL (20 kHz) US294		
20.05-70 FIXED MARITIME MOBILE 5.57			20.05-59 FIXED MARITIME MOBILE 5.57 US294	20.05-59 FIXED US294	
			59-61 STANDARD FREQUENCY AND TIME SIGNAL (60 kHz) US294		
5.56 5.58			61-70 FIXED MARITIME MOBILE 5.57 US294	61-70 FIXED US294	
70-72 RADIONAVIGATION 5.60	70-90 FIXED MARITIME MOBILE 5.57 MARITIME RADIONAVIGATION 5.60 Radiolocation	70-72 RADIONAVIGATION 5.60 Fixed Maritime mobile 5.57 5.59	70-90 FIXED MARITIME MOBILE 5.57 Radiolocation	70-90 FIXED Radiolocation	Private Land Mobile (90)
5.56 72-84 FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56		72-84 FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60			



84-86 RADIONAVIGATION 5.60		84-86 RADIONAVIGATION 5.60 Fixed Maritime mobile 5.57 5.59			
86-90 FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	5.61	86-90 FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60	US294	US294	
90-110 RADIONAVIGATION 5.62 Fixed 5.64			90-110 RADIONAVIGATION 5.62 US18  US104 US294		Aviation (87) Private Land Mobile (90)
110-112 FIXED MARITIME MOBILE RADIONAVIGATION 5.64	110-130 FIXED MARITIME MOBILE MARITIME RADIONAVIGATION 5.60 Radiolocation	110-112 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	110-130 FIXED MARITIME MOBILE Radiolocation		Maritime (80) Private Land Mobile (90)
112-115 RADIONAVIGATION 5.60		112-117.6 RADIONAVIGATION 5.60 Fixed Maritime mobile			
115-117.6 RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.66		5.64 5.65			
117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64		117.6-126 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64			
126-129 RADIONAVIGATION 5.60		126-129 RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64 5.65			
See next page for 129-130 kHz	5.61 5.64	See next page for 129-130 kHz	5.64 US294		

130-505 kHz (LF/MF)

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International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
129-130 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	See previous page for 110-130 kHz	129-130 FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	See previous page for 110-130 kHz		See previous page for 110-130 kHz
130-148.5 FIXED MARITIME MOBILE 5.64 5.67	130-160 FIXED MARITIME MOBILE 5.64	130-160 FIXED MARITIME MOBILE RADIONAVIGATION 5.64	130-160 FIXED MARITIME MOBILE 5.64 US294		Maritime (80)
148.5-255 BROADCASTING   5.68 5.69 5.70 255-283.5 BROADCASTING AERONAUTICAL RADIONAVIGATION 5.70 5.71 283.5-315 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73  5.72 5.74	160-190 FIXED	160-190 FIXED Aeronautical radionavigation	160-190 FIXED MARITIME MOBILE US294	160-190 FIXED US294	
	190-200 AERONAUTICAL RADIONAVIGATION		190-200 AERONAUTICAL RADIONAVIGATION US18 US226 US294		Aviation (87)
	200-275 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	200-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	200-275 AERONAUTICAL RADIONAVIGATION US18 Aeronautical mobile  US294		
	275-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)		275-285 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)  US18 US294		
	285-315 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73		285-325 MARITIME RADIONAVIGATION (radiobeacons) 5.73 Aeronautical radionavigation (radiobeacons)		

315-325 AERONAUTICAL RADIONAVIGATION Maritime radionavigation (radiobeacons) 5.73 5.72 5.75	315-325 MARITIME RADIONAVIGATION (radiobeacons) 5.73 Aeronautical radionavigation	315-325 AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (radiobeacons) 5.73	US18 US294 US364		
325-405 AERONAUTICAL RADIONAVIGATION  5.72	325-335 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Maritime radionavigation (radiobeacons)	325-405 AERONAUTICAL RADIONAVIGATION Aeronautical mobile	325-335 AERONAUTICAL RADIONAVIGATION (radiobeacons) Aeronautical mobile Maritime radionavigation (radiobeacons)  US18 US294		Aviation (87)
	335-405 AERONAUTICAL RADIONAVIGATION Aeronautical mobile		335-405 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 Aeronautical mobile  US294		
405-415 RADIONAVIGATION 5.76  5.72	405-415 RADIONAVIGATION 5.76 Aeronautical mobile		405-415 RADIONAVIGATION 5.76 US18 Aeronautical mobile  US294		Maritime (80) Aviation (87)
415-435 MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION  5.72	415-495 MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation 5.80		415-435 MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION  US294		
435-495 MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation  5.72 5.82			435-495 MARITIME MOBILE 5.79 5.79A Aeronautical radionavigation  5.82 US231 US294		435-495 MARITIME MOBILE 5.79 5.79A  5.82 US231 US294
495-505 MOBILE (distress and calling)  5.83			495-505 MOBILE (distress and calling)  5.83		Maritime (80) Aviation (87)

505-2107 kHz (MF)

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International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION	505-510 MARITIME MOBILE 5.79	505-526.5 MARITIME MOBILE 5.79 5.79A 5.84 AERONAUTICAL RADIONAVIGATION Aeronautical mobile Land mobile	505-510 MARITIME MOBILE 5.79		Maritime (80)
	510-525 MOBILE 5.79A 5.84 AERONAUTICAL RADIONAVIGATION		510-525 MARITIME MOBILE (ships only) 5.79A 5.84 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 US14 US225		Maritime (80) Aviation (87)
	525-535 BROADCASTING 5.86 AERONAUTICAL RADIONAVIGATION		525-535 AERONAUTICAL RADIONAVIGATION (radiobeacons) US18 MOBILE US221		Aviation (87) Private Land Mobile (90)
5.72 526.5-1606.5 BROADCASTING	535-1605 BROADCASTING	526.5-535 BROADCASTING Mobile	US239		Radio Broadcast (AM) (73) Auxiliary Broadcast (74) Alaska Fixed (80)
5.87 5.87A 1606.5-1625 FIXED MARITIME MOBILE 5.90 LAND MOBILE		5.88	535-1605 US321		
	1605-1625 BROADCASTING 5.89	1606.5-1800 FIXED MOBILE RADIOLOCATION RADIONAVIGATION	1605-1615 MOBILE US221	1605-1705 BROADCASTING 5.89	
	5.92		US321		
1625-1635 RADIOLOCATION	1625-1705 FIXED MOBILE BROADCASTING 5.89 Radiolocation		1615-1705	US238 US299 US321 NG128	
5.93 1635-1800 FIXED MARITIME MOBILE 5.90 LAND MOBILE	5.90	US238 US299 US321			

5.92 5.96	1705-1800 FIXED MOBILE RADIOLOCATION AERONAUTICAL RADIONAVIGATION	5.91	1705-1800 FIXED MOBILE RADIOLOCATION  US240		Maritime (80) Private Land Mobile (90)
1800-1810 RADIOLOCATION  5.93 1810-1850 AMATEUR  5.98 5.99 5.100 5.101	1800-1850 AMATEUR	1800-2000 AMATEUR FIXED MOBILE except aeronautical mobile RADIONAVIGATION Radiolocation	1800-1900	1800-1900 AMATEUR	Amateur (97)
1850-2000 FIXED MOBILE except aeronautical Mobile	1850-2000 AMATEUR FIXED MOBILE except aeronautical mobile RADIOLOCATION RADIONAVIGATION		1900-2000 RADIOLOCATION		
5.92 5.96 5.103	5.102	5.97	US290		Private Land Mobile (90) Amateur (97)
2000-2025 FIXED MOBILE except aeronautical mobile (R)  5.92 5.103 2025-2045 FIXED MOBILE except aeronautical mobile (R) Meteorological aids 5.104  5.92 5.103 2045-2160 FIXED MARITIME MOBILE LAND MOBILE	2000-2065 FIXED MOBILE	2065-2107 MARITIME MOBILE 5.105  5.106	2000-2065 FIXED MOBILE	2000-2065 MARITIME MOBILE NG19	Maritime (80)
			US340	US340	
			2065-2107 MARITIME MOBILE 5.105		
5.92	See next page for 2107-2170 kHz		US296 US340		See next page

2107-3230 kHz (MF/HF)					Page 7
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
See previous page for 2045-2160 kHz	2107-2170 FIXED MOBILE		2107-2170 FIXED MOBILE	2107-2170 FIXED LAND MOBILE MARITIME MOBILE NG19	Maritime (80) Private Land Mobile (90)
2160-2170 RADIOLOCATION					
5.93 5.107			US340	US340	
2170-2173.5 MARITIME MOBILE			2170-2173.5 MARITIME MOBILE (telephony)	2170-2173.5 MARITIME MOBILE	Maritime (80)
			US340	US340	
2173.5-2190.5 MOBILE (distress and calling)			2173.5-2190.5 MOBILE (distress and calling)		Maritime (80) Aviation (87)
5.108 5.109 5.110 5.111			5.108 5.109 5.110 5.111 US279 US340		
2190.5-2194 MARITIME MOBILE			2190.5-2194 MARITIME MOBILE (telephony)	2190.5-2194 MARITIME MOBILE	Maritime (80)
			US340	US340	
2194-2300 FIXED MOBILE except aeronautical mobile (R)	2194-2300 FIXED MOBILE		2194-2495 FIXED MOBILE	2194-2495 FIXED LAND MOBILE MARITIME MOBILE NG19	Maritime (80) Aviation (87) Private Land Mobile (90)
5.92 5.103 5.112	5.112				
2300-2498 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113	2300-2495 FIXED MOBILE BROADCASTING 5.113				
			US340	US340	
5.103	2495-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)		2495-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)		
2498-2501 STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)			US340		

2501-2502 STANDARD FREQUENCY AND TIME SIGNAL Space research		2501-2502 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	2501-2502 STANDARD FREQUENCY AND TIME SIGNAL US340	
2502-2625 FIXED MOBILE except aeronautical mobile (R) 5.92 5.103 5.114	2502-2505 STANDARD FREQUENCY AND TIME SIGNAL	2502-2505 STANDARD FREQUENCY AND TIME SIGNAL US340		
2625-2650 MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	2505-2850 FIXED MOBILE	2505-2850 FIXED MOBILE  US285 US340	2505-2850 FIXED LAND MOBILE MARITIME MOBILE  US285 US340	Maritime (80) Aviation (87) Private Land Mobile (90)
2650-2850 FIXED MOBILE except aeronautical mobile (R) 5.92 5.103				
2850-3025 AERONAUTICAL MOBILE (R) 5.111 5.115		2850-3025 AERONAUTICAL MOBILE (R) 5.111 5.115 US283 US340		Aviation (87)
3025-3155 AERONAUTICAL MOBILE (OR)		3025-3155 AERONAUTICAL MOBILE (OR) US340		
3155-3200 FIXED MOBILE except aeronautical mobile (R) 5.116 5.117		3155-3230 FIXED MOBILE except aeronautical mobile (R)  US340		Maritime (80) Private Land Mobile (90)
3200-3230 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116				

3230-5060 kHz (HF)						Page 9	
International Table			United States Table		FCC Rule Part(s)		
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government			
3230-3400 FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116 5.118			3230-3400 FIXED MOBILE except aeronautical mobile Radiolocation US340		Maritime (80) Aviation (87) Private Land Mobile (90)		
3400-3500 AERONAUTICAL MOBILE (R)			3400-3500 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)		
3500-3800 AMATEUR FIXED MOBILE except aeronautical mobile 5.92	3500-3750 AMATEUR 5.119	3500-3900 AMATEUR FIXED MOBILE	3500-4000	3500-4000 AMATEUR	Amateur (97)		
3800-3900 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	3750-4000 AMATEUR FIXED MOBILE except aeronautical mobile (R)						
3900-3950 AERONAUTICAL MOBILE (OR) 5.123	5.122 5.125	3900-3950 AERONAUTICAL MOBILE BROADCASTING					
3950-4000 FIXED BROADCASTING		3950-4000 FIXED BROADCASTING					
5.126						US340	US340
4000-4063 FIXED MARITIME MOBILE 5.127 5.126						4000-4063 FIXED MARITIME MOBILE US340	
4063-4438 MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 5.128 5.129			4063-4438 MARITIME MOBILE 5.79A 5.109 5.110 5.130 5.131 5.132 US82 US296 US340		Maritime (80) Aviation (87)		



4438-4650 FIXED MOBILE except aeronautical mobile (R)		4438-4650 FIXED MOBILE except aeronautical Mobile	4438-4650 FIXED MOBILE except aeronautical mobile (R) US340	Maritime (80) Aviation (87) Private Land Mobile (90)
4650-4700 AERONAUTICAL MOBILE (R)			4650-4700 AERONAUTICAL MOBILE (R) US282 US283 US340	Aviation (87)
4700-4750 AERONAUTICAL MOBILE (OR)			4700-4750 AERONAUTICAL MOBILE (OR) US340	
4750-4850 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	4750-4850 FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113	4750-4850 FIXED BROADCASTING 5.113 Land mobile	4750-4850 FIXED MOBILE except aeronautical mobile (R)  US340	Maritime (80)
4850-4995 FIXED LAND MOBILE BROADCASTING 5.113			4850-4995 FIXED MOBILE US340	Aviation (87)
			4850-4995 FIXED US340	
4995-5003 STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)			4995-5003 STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz) US340	
5003-5005 STANDARD FREQUENCY AND TIME SIGNAL Space research			5003-5005 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	
			5003-5005 STANDARD FREQUENCY AND TIME SIGNAL US340	
5005-5060 FIXED BROADCASTING 5.113			5005-5060 FIXED US340	Maritime (80) Aviation (87) Private Land Mobile (90)

5060-9040 kHz (HF)					Page 11
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
5060-5250 FIXED Mobile except aeronautical mobile 5.133			5060-5450 FIXED Mobile except aeronautical mobile		Maritime (80) Aviation (87) Private Land Mobile (90)
5250-5450 FIXED MOBILE except aeronautical mobile			US212 US340		
5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5480 AERONAUTICAL MOBILE (R)	5450-5480 FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	5450-5680 AERONAUTICAL MOBILE (R)		Aviation (87)
5480-5680 AERONAUTICAL MOBILE (R) 5.111 5.115			5.111 5.115 US283 US340		
5680-5730 AERONAUTICAL MOBILE (OR) 5.111 5.115			5680-5730 AERONAUTICAL MOBILE (OR) 5.111 5.115 US340		
5730-5900 FIXED LAND MOBILE	5730-5900 FIXED MOBILE except aeronautical mobile (R)	5730-5900 FIXED Mobile except aeronautical mobile (R)	5730-5900 FIXED MOBILE except aeronautical mobile (R) US340		Maritime (80) Aviation (87)
5900-5950 BROADCASTING 5.134 5.136			5900-5950 BROADCASTING FIXED MOBILE except aeronautical mobile (R) US340 US366		Radio Broadcast (HF) (73) Maritime (80) Aviation (87)
5950-6200 BROADCASTING			5950-6200 BROADCASTING US340		Radio Broadcast (HF) (73)
6200-6525 MARITIME MOBILE 5.109 5.110 5.130 5.132 5.137			6200-6525 MARITIME MOBILE 5.109 5.110 5.130 5.132 US82 US296 US340		Maritime (80)
6525-6685 AERONAUTICAL MOBILE (R)			6525-6685 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)

6685-6765 AERONAUTICAL MOBILE (OR)			6685-6765 AERONAUTICAL MOBILE (OR) US340		
6765-7000 FIXED Land mobile 5.139 5.138			6765-7000 FIXED Mobile 5.138 US340		ISM Equipment (18)
7000-7100 AMATEUR AMATEUR-SATELLITE 5.140 5.141			7000-7100  US340	7000-7100 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
7100-7300 BROADCASTING	7100-7300 AMATEUR 5.142	7100-7300 BROADCASTING	7100-7300  US340	7100-7300 AMATEUR 5.142 US340	
7300-7350 BROADCASTING 5.134  5.143			7300-7350 BROADCASTING FIXED Mobile  US340 US366		Radio Broadcast (HF) (73) Maritime (80) Private Land Mobile (90)
7350-8100 FIXED Land mobile 5.144			7350-8100 FIXED Mobile  US340		Maritime (80) Aviation (87) Private Land Mobile (90)
8100-8195 FIXED MARITIME MOBILE			8100-8195 FIXED MARITIME MOBILE  US340		Maritime (80)
8195-8815 MARITIME MOBILE 5.109 5.110 5.132 5.145 5.111			8195-8815 MARITIME MOBILE 5.109 5.110 5.132 5.145 US82 5.111 US296 US340		Maritime (80) Aviation (87)
8815-8965 AERONAUTICAL MOBILE (R)			8815-8965 AERONAUTICAL MOBILE (R)  US340		Aviation (87)
8965-9040 AERONAUTICAL MOBILE (OR)			8965-9040 AERONAUTICAL MOBILE (OR)  US340		

9040-13410 kHz (HF)					Page 13
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
9040-9400 FIXED			9040-9400 FIXED US340		Maritime (80)
9400-9500 BROADCASTING 5.134  5.146			9400-9500 BROADCASTING FIXED US340 US366		Radio Broadcast (HF) (73) Maritime (80)
9500-9900 BROADCASTING  5.147			9500-9900 BROADCASTING 5.147 US340 US367		Radio Broadcast (HF) (73)
9900-9995 FIXED			9900-9995 FIXED US340		
9995-10003 STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz)  5.111			9995-10003 STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) 5.111 US340		
10003-10005 STANDARD FREQUENCY AND TIME SIGNAL Space research  5.111			10003-10005 STANDARD FREQUENCY AND TIME SIGNAL 5.111 US340 G106	10003-10005 STANDARD FREQUENCY AND TIME SIGNAL 5.111 US340	
10005-10100 AERONAUTICAL MOBILE (R)  5.111			10005-10100 AERONAUTICAL MOBILE (R) 5.111 US283 US340		Aviation (87)
10100-10150 FIXED Amateur			10100-10150  US247 US340	10100-10150 AMATEUR US247 US340	Amateur (97)
10150-11175 FIXED Mobile except aeronautical mobile (R)			10150-11175 FIXED Mobile except aeronautical mobile (R) US340		
11175-11275 AERONAUTICAL MOBILE (OR)			11175-11275 AERONAUTICAL MOBILE (OR) US340		

11275-11400 AERONAUTICAL MOBILE (R)	11275-11400 AERONAUTICAL MOBILE (R) US283 US340	Aviation (87)
11400-11600 FIXED	11400-11600 FIXED US340	
11600-11650 BROADCASTING 5.134	11600-11650 BROADCASTING FIXED	Radio Broadcast (HF) (73)
5.146	US340 US366	
11650-12050 BROADCASTING	11650-12050 BROADCASTING	
5.147	US340 US367	
12050-12100 BROADCASTING 5.134	12050-12100 BROADCASTING FIXED	
5.146	US340 US366	
12100-12230 FIXED	12100-12230 FIXED US340	
12230-13200 MARITIME MOBILE 5.109 5.110 5.132 5.145	12230-13200 MARITIME MOBILE 5.109 5.110 5.132 5.145 US82 US296 US340	Maritime (80)
13200-13260 AERONAUTICAL MOBILE (OR)	13200-13260 AERONAUTICAL MOBILE (OR) US340	
13260-13360 AERONAUTICAL MOBILE (R)	13260-13360 AERONAUTICAL MOBILE (R) US283 US340	Aviation (87)
13360-13410 FIXED RADIO ASTRONOMY	13360-13410 RADIO ASTRONOMY	13360-13410 RADIO ASTRONOMY
5.149	US342 G115	US342

13410-17900 kHz (HF)					Page 15
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
13410-13570 FIXED Mobile except aeronautical mobile (R)			13410-13570 FIXED Mobile except aeronautical mobile (R)	13410-13570 FIXED	ISM Equipment (18)
5.150			5.150 US340	5.150 US340	
13570-13600 BROADCASTING 5.134			13570-13600 BROADCASTING FIXED Mobile except aeronautical mobile (R)	13570-13600 BROADCASTING FIXED	Radio Broadcast (HF) (73)
5.151			US340 US366	US340 US366	
13600-13800 BROADCASTING			13600-13800 BROADCASTING US340		
13800-13870 BROADCASTING 5.134			13800-13870 BROADCASTING FIXED Mobile except aeronautical mobile (R)	13800-13870 BROADCASTING FIXED	
5.151			US340 US366	US340 US366	
13870-14000 FIXED Mobile except aeronautical mobile (R)			13870-14000 FIXED Mobile except aeronautical mobile (R)	13870-14000 FIXED	
			US340	US340	
14000-14250 AMATEUR AMATEUR-SATELLITE			14000-14350	14000-14250 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
14250-14350 AMATEUR				14250-14350 AMATEUR	
5.152			US340	US340	
14350-14990 FIXED Mobile except aeronautical mobile (R)			14350-14990 FIXED Mobile except aeronautical mobile (R)	14350-14990 FIXED	
			US340	US340	

14990-15005 STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz)	14990-15005 STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz)	
5.111	5.111 US340	
15005-15010 STANDARD FREQUENCY AND TIME SIGNAL Space research	15005-15010 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	15005-15010 STANDARD FREQUENCY AND TIME SIGNAL US340
15010-15100 AERONAUTICAL MOBILE (OR)	15010-15100 AERONAUTICAL MOBILE (OR) US340	
15100-15600 BROADCASTING	15100-15600 BROADCASTING US340	Radio Broadcast (HF) (73)
15600-15800 BROADCASTING 5.134	15600-15800 BROADCASTING FIXED US340 US366	
5.146		
15800-16360 FIXED	15800-16360 FIXED US340	
5.153		
16360-17410 MARITIME MOBILE 5.109 5.110 5.132 5.145	16360-17410 MARITIME MOBILE 5.109 5.110 5.132 5.145 US82 US296 US340	Maritime (80)
17410-17480 FIXED	17410-17480 FIXED US340	
17480-17550 BROADCASTING 5.134	17480-17550 BROADCASTING FIXED US340 US366	Radio Broadcast (HF) (73) Aviation (87)
5.146		
17550-17900 BROADCASTING	17550-17900 BROADCASTING US340	Radio Broadcast (HF) (73)

17900-22855 kHz (HF)					Page 17
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
17900-17970 AERONAUTICAL MOBILE (R)			17900-17970 AERONAUTICAL MOBILE (R) US283 US340		Aviation (87)
17970-18030 AERONAUTICAL MOBILE (OR)			17970-18030 AERONAUTICAL MOBILE (OR) US340		
18030-18052 FIXED			18030-18068 FIXED		Maritime (80)
18052-18068 FIXED Space research			US340		
18068-18168 AMATEUR AMATEUR-SATELLITE 5.154			18068-18168 US340	18068-18168 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
18168-18780 FIXED Mobile except aeronautical mobile			18168-18780 FIXED Mobile US340		Maritime (80)
18780-18900 MARITIME MOBILE			18780-18900 MARITIME MOBILE US82 US296 US340		
18900-19020 BROADCASTING 5.134 5.146			18900-19020 BROADCASTING FIXED US340 US366		Radio Broadcast (HF) (73)
19020-19680 FIXED			19020-19680 FIXED US340		
19680-19800 MARITIME MOBILE 5.132			19680-19800 MARITIME MOBILE 5.132 US340		Maritime (80)
19800-19990 FIXED			19800-19990 FIXED US340		



19990-19995 STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	19990-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz)	19990-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz)	
19995-20010 STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz) 5.111			
20010-21000 FIXED Mobile	20010-21000 FIXED Mobile US340	20010-21000 FIXED US340	
21000-21450 AMATEUR AMATEUR-SATELLITE	21000-21450 US340	21000-21450 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
21450-21850 BROADCASTING	21450-21850 BROADCASTING US340		Radio Broadcast (HF) (73)
21850-21870 FIXED 5.155A 5.155	21850-21924 FIXED US340		Aviation (87)
21870-21924 FIXED 5.155B			
21924-22000 AERONAUTICAL MOBILE (R)	21924-22000 AERONAUTICAL MOBILE (R) US340		
22000-22855 MARITIME MOBILE 5.132 5.156	22000-22855 MARITIME MOBILE 5.132 US82 US296 US340		Maritime (80)

22855-26175 kHz (HF)					Page 19
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
22855-23000 FIXED 5.156			22855-23000 FIXED US340		
23000-23200 FIXED Mobile except aeronautical mobile (R) 5.156			23000-23200 FIXED Mobile except aeronautical mobile (R) US340	23000-23200 FIXED US340	
23200-23350 FIXED 5.156A AERONAUTICAL MOBILE (OR)			23200-23350 AERONAUTICAL MOBILE (OR) US340		
23350-24000 FIXED MOBILE except aeronautical mobile 5.157			23350-24890 FIXED MOBILE except aeronautical mobile US340	23350-24890 FIXED US340	
24000-24890 FIXED LAND MOBILE					
24890-24990 AMATEUR AMATEUR-SATELLITE			24890-24990 US340	24890-24990 AMATEUR AMATEUR-SATELLITE US340	Amateur (97)
24990-25005 STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)			24990-25005 STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz) US340		
25005-25010 STANDARD FREQUENCY AND TIME SIGNAL Space research			25005-25010 STANDARD FREQUENCY AND TIME SIGNAL US340 G106	25005-25010 STANDARD FREQUENCY AND TIME SIGNAL US340	
25010-25070 FIXED MOBILE except aeronautical mobile			25010-25070 US340	25010-25070 LAND MOBILE US340 NG112	Private Land Mobile (90)

25070-25210 MARITIME MOBILE	25070-25210 MARITIME MOBILE US82  US281 US296 US340	25070-25210 MARITIME MOBILE US82 US281 US296 US340 NG112	Maritime (80) Private Land Mobile (90)
25210-25550 FIXED MOBILE except aeronautical mobile	25210-25330  US340	25210-25330 LAND MOBILE US340	Private Land Mobile (90)
	25330-25550 FIXED MOBILE except aeronautical mobile US340	25330-25550  US340	
25550-25670 RADIO ASTRONOMY 5.149	25550-25670 RADIO ASTRONOMY US74 US342		
25670-26100 BROADCASTING	25670-26100 BROADCASTING  US25 US340		Radio Broadcast (HF) (73) Remote Pickup (74D)
26100-26175 MARITIME MOBILE 5.132	26100-26175 MARITIME MOBILE 5.132  US25 US340		Remote Pickup (74D) Maritime (80)

26175-28000 kHz (HF)					Page 21
International Table			United States Table		FCC Rule Part(s)
Region 1	Region 2	Region 3	Federal Government	Non-Federal Government	
26175-27500 FIXED MOBILE except aeronautical mobile			26175-26480	26175-26480 LAND MOBILE	Remote Pickup (74D)
			US340	US340	
			26480-26950 FIXED MOBILE except aeronautical mobile	26480-26950	
			US10 US340	US10 US340	
			26950-27410	26950-26960 FIXED	ISM Equipment (18)
				5.150 US340	
				26960-27230 MOBILE except aeronautical mobile	ISM Equipment (18) Personal Radio (95)
				5.150 US340	
			27230-27410 FIXED MOBILE except aeronautical mobile	ISM Equipment (18) Private Land Mobile (90) Personal Radio (95)	
				5.150 US340	
5.150 US340					
27410-27540	27410-27540 FIXED LAND MOBILE	Private Land Mobile (90)			
US340	US340				
27540-28000 FIXED MOBILE	27540-28000				
	US298 US340		US298 US340		

\* \* \* \* \*

#### UNITED STATES (US) FOOTNOTES

\* \* \* \* \*

US18 Navigation aids in the U.S. and its insular areas in the bands 9-14 kHz, 90-110 kHz, 190-415 kHz, 510-535 kHz, and 2700-2900 MHz are normally operated by the Federal Government. However, authorizations may be made by the FCC for non-Federal Government operations in these bands subject to the conclusion of appropriate arrangements between the FCC and the Federal agencies concerned and upon special showing of need for service which the Federal Government is not yet prepared to render.

\* \* \* \* \*

US25 The use of frequencies 26110 kHz, 26130 kHz, 26151 kHz, and 26172 kHz may be authorized to non-Federal Government remote pickup broadcast base and mobile stations on the condition that harmful interference is not caused to the reception of either international broadcast stations transmitting in the band 25850-26100 kHz or to coast stations transmitting in the band 26100-26175 kHz.

\* \* \* \* \*

US82 The assignable frequencies in the bands 4146-4152 kHz, 6224-6233 kHz, 8294-8300 kHz, 12353-12368 kHz, 16528-16549 kHz, 18825-18846 kHz, 22159-22180 kHz, and 25100-25121 kHz may be authorized on a shared non-priority basis to Federal and non-Federal Government ship and coast stations (SSB telephony, with peak envelope power not to exceed 1 kW).

\* \* \* \* \*

US104 The LORAN Radionavigation System has priority in the band 90-110 kHz in the United States and its insular areas. Radiolocation land stations making use of LORAN type equipment may be authorized to both Federal and non-Federal Government licensees on a secondary basis for offshore radiolocation activities only at specific locations and subject to such technical and operational conditions (e.g., power, emission, pulse rate and phase code, hours of operation), including on-the-air testing, as may be required on a case-by-case basis to ensure protection of the LORAN radionavigation system from harmful interference and to ensure mutual compatibility among radiolocation operators. Such authorizations to stations in the radiolocation service are further subject to showing of need for service which is not currently provided and which the Federal Government is not yet prepared to render by way of the radionavigation service.

\* \* \* \* \*

US225 In addition to its present Federal Government use, the band 510-525 kHz is available to Federal and non-Federal Government aeronautical radionavigation stations inland of the Territorial Base Line as coordinated with the military services. In addition, the frequency 510 kHz is available for non-Federal Government ship-helicopter operations when beyond 100 nautical miles from shore and required for aeronautical radionavigation.

\* \* \* \* \*

US231 When an assignment cannot be obtained in the bands between 200 kHz and 525 kHz, which are allocated to aeronautical radionavigation, assignments may be made to aeronautical radiobeacons in the maritime mobile band 435-490 kHz, on a secondary basis, subject to the coordination and agreement of those agencies having assignments within the maritime mobile band which may be affected. Assignments to Federal Government aeronautical radionavigation radiobeacons in the band 435-490 kHz

shall not be a bar to any required changes to the maritime mobile radio service and shall be limited to non-voice emissions.

\* \* \* \* \*

US238 On the condition that harmful interference is not caused to the reception of AM broadcast stations or to travelers' information stations, Federal Government stations in the band 1615-1705 kHz may continue operations until February 25, 2004.

\* \* \* \* \*

US281 In the band 25070-25210 kHz, non-Federal Government stations in the Industrial/Business Pool shall not cause harmful interference to, and must accept interference from, stations in the maritime mobile service operating in accordance with the Table of Frequency Allocations.

US282 In the band 4650-4700 kHz, frequencies may be authorized for non-Federal Government communication with helicopters in support of off-shore drilling operations on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

US283 In the bands 2850-3025 kHz, 3400-3500 kHz, 4650-4700 kHz, 5450-5680 kHz, 6525-6685 kHz, 10005-10100 kHz, 11275-11400 kHz, 13260-13360 kHz, and 17900-17970 kHz, frequencies may be authorized for non-Federal Government flight test purposes on the condition that harmful interference will not be caused to services operating in accordance with the Table of Frequency Allocations.

\* \* \* \* \*

US298 Channels 27555 kHz, 27615 kHz, 27635 kHz, 27655 kHz, 27765 kHz, and 27860 kHz are available for use by forest product licensees on a secondary basis to Federal Government operations including experimental stations. Non-Federal Government operations on these channels will not exceed 150 watts output power and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

\* \* \* \* \*

US321 The band 535-1705 kHz is also allocated to the non-Federal Government mobile service on a secondary basis for the distribution of public service information from Travelers' Information Stations operating in accordance with the provisions of 47 C.F.R. § 90.242 on 10 kilohertz spaced channels from 540 kHz to 1700 kHz.

\* \* \* \* \*

US340 The band 2-30 MHz is available on a non-interference basis to Federal and non-Federal Government maritime and aeronautical stations for the purposes of measuring the quality of reception on radio channels. See 47 C.F.R. § 87.149 for the list of protected frequencies and bands within this frequency range. Actual communications shall be limited to those frequencies specifically allocated to the maritime mobile and aeronautical mobile services.

\* \* \* \* \*

US342 In making assignments to stations of other services to which the following bands:

13360-13410 kHz,	22.81-22.86 GHz*,	177-177.4 GHz*,
25550-25670 kHz,	23.07-23.12 GHz*,	178.2-178.6 GHz*,
37.5-38.25 MHz,	31.2-31.3 GHz,	181-181.46 GHz*,
322-328.6 MHz*,	36.43-36.5 GHz*,	186.2-186.6 GHz*,
1330-1400 MHz*,	42.5-43.5 GHz,	250-251 GHz*,
1610.6-1613.8 MHz*,	48.94-49.04 GHz*,	257.5-258 GHz*,
1660-1670 MHz,	93.07-93.27 GHz*,	261-265 GHz,
3260-3267 MHz*,	97.88-98.08 GHz*,	262.24-262.76 GHz*,
3332-3339 MHz*,	140.69-140.98 GHz*,	265-275 GHz,
3345.8-3352.5 MHz*,	144.68-144.98 GHz*,	265.64-266.16 GHz*,
4825-4835 MHz*,	145.45-145.75 GHz*,	267.34-267.86 GHz*,
14.47-14.5 GHz*,	146.82-147.12 GHz*,	271.74-272.26 GHz*
22.01-22.21 GHz*,	150-151 GHz*,	
22.21-22.5 GHz,	174.42-175.02 GHz*,	

are allocated (\* indicates radio astronomy use for spectral line observations), all practicable steps shall be taken to protect the radio astronomy service from harmful interference. Emissions from spaceborne or air-borne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. 4.5 and 4.6 and Article 29 of the ITU Radio Regulations).

\* \* \* \* \*

US364 Consistent with US18, stations may be authorized on a primary basis in the band 285-325 kHz for the specific purpose of transmitting differential global positioning system information.

US366 On April 1, 2007, the bands 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz shall be allocated exclusively to the broadcasting service. Beginning April 1, 2007, frequencies in these bands may be used by stations in the fixed and mobile services, communicating only within the United States and its insular areas, on the condition that harmful interference is not caused to the broadcasting service. When using frequencies for fixed and mobile services, licensees shall be limited to the minimum power needed to achieve communications and shall take account of the seasonal use of frequencies by the broadcasting service published in accordance with Article 12 of the ITU Radio Regulations.

US367 On the condition that harmful interference is not caused to the broadcasting service, frequencies in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz may be used by Federal Government stations in the fixed service communicating within the United States and its insular areas that are authorized as of [effective date of the Report and Order published in the Federal Register]. Each such station shall be limited to a total radiated power of 24 dBW.

\* \* \* \* \*

## PART 73 -- RADIO BROADCAST SERVICES

3. The authority citation for Part 73 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 334 and 336.

4. Section 73.701 is amended by revising paragraphs (a), (e), (g), (h), (i), (j), and (l) to read as follows:

### § 73.701 Definitions.

\* \* \* \* \*

(a) International broadcast stations. A broadcasting station employing frequencies allocated to the broadcasting service between 5900 and 26100 kHz, the transmissions of which are intended to be received directly by the general public in foreign countries. (A station may be authorized more than one transmitter.) There are both Federal and non-Federal Government international broadcast stations; only the latter are licensed by the Commission and are subject to the rules of this subpart.

\* \* \* \* \*

(e) Coordinated Universal Time (UTC). Time scale, based on the second (SI), as defined in Recommendation ITU-R TF.460-5. UTC is equivalent to mean solar time at the prime meridian (0° longitude), formerly expressed as GMT.

\* \* \* \* \*

(g) Day. Any twenty-four hour period beginning 0100 UTC and ending 0100 UTC.

(h) Schedule A. That portion of any year commencing at 0100 UTC on the last Sunday in March and ending at 0100 UTC on the last Sunday in October.

(i) Schedule B. That portion of any year commencing at 0100 UTC on the last Sunday in October and ending at 0100 UTC on the last Sunday in March.

(j) [Reserved]

\* \* \* \* \*

(l) Reference month. That month of a season which is used for determining predicted propagation characteristics for the season. The reference month for Schedule A is July and the reference month for Schedule B is December.

\* \* \* \* \*

5. Sections 73.702 is amended by revising paragraphs (f) and (f)(1), by revising the first two sentences in paragraph (f)(2); by adding new paragraph (f)(3); and by redesignating paragraph (f)(3) as (f)(4) to read as follows:

**§ 73.702 Assignment and use of frequencies.**

\* \* \* \* \*

(f) Assigned frequencies shall be within the following bands, which are allocated on an exclusive basis to the broadcasting service:

(1) 5950-6200 kHz, 9500-9900 kHz, 11650-12050 kHz, 13600-13800 kHz, 15100-15600 kHz, 17550-17900 kHz, 21450-21850 kHz, and 25670-26100 kHz.

(2) In addition, the band 7100-7300 kHz is allocated on an exclusive basis to the broadcasting service in International Telecommunication Union (ITU) Regions 1 and 3 as defined in 47 C.F.R. § 2.104(b). Assignments in the band 7100-7300 kHz shall be limited to international broadcast stations located in ITU Region 3 insular areas (as defined in 47 C.F.R. § 2.105(a), note 4) that transmit to zones and areas of reception in ITU Region 1 or 3. \* \* \*

(3) In addition, frequencies within the following bands are assignable to the broadcasting service on an exclusive basis after April 1, 2007:

(i) 5900-5950 kHz, 7300-7350 kHz, 9400-9500 kHz, 11600-11650 kHz, 12050-12100 kHz, 13570-13600 kHz, 13800-13870 kHz, 15600-15800 kHz, 17480-17550 kHz, and 18900-19020 kHz (WARC-92 HFBC bands).

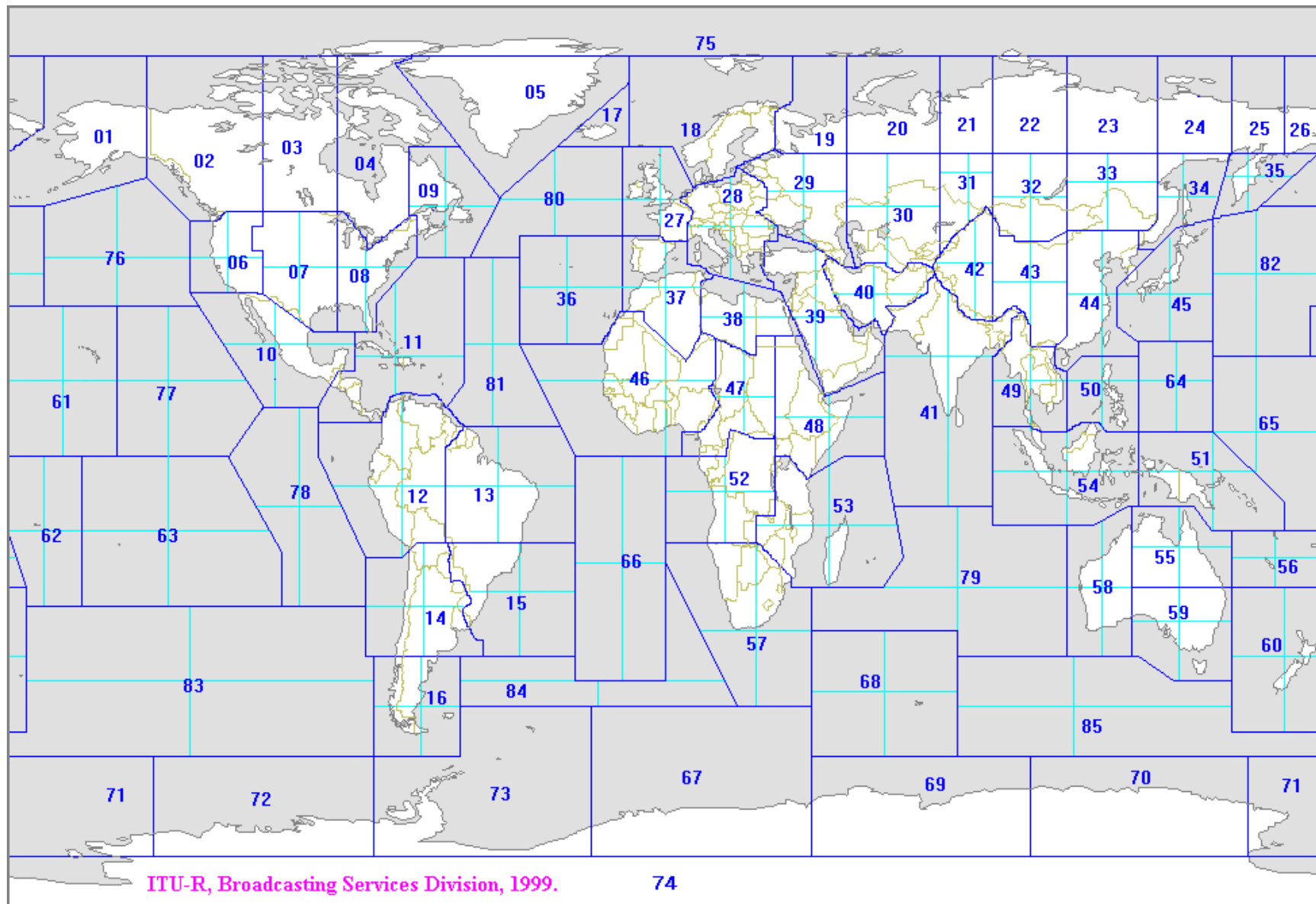


\* \* \* \* \*

6. Section 73.703 is amended by replacing the map:

**§ 73.703 Geographical zones and areas of reception.**

\* \* \* \* \*



7. Section 73.756(c) is revised to read as follows:

**§ 73.756 Transmission system requirements.**

\* \* \* \* \*

(c) Frequency tolerance. The transmitter shall maintain the operating frequency within 10 Hz of the assigned frequency.

8. Section 73.766 is amended by revising the last sentence to read as follows:

**§ 73.766 Modulation and bandwidth.**

\* \* \* The highest modulating frequency shall not exceed 4.5 kHz.

**PART 74---EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCASTING AND OTHER PROGRAM DISTRIBUTIONAL SERVICES**

9. The authority citation for Part 74 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 307, and 554.

10. Section 74.402 is amended by removing “(except 1606, 1622, and 1646 kHz)” from the introductory text of (a) and removing and reserving paragraphs (a)(1) and (e)(1), to read as follows:

**§ 74.402 Frequency assignment.**

(a) The following channels may be assigned for use by broadcast remote pickup stations using any emission (other than single sideband or pulse) that will be in accordance with the provisions of § 74.462.

(1) [Reserved]

\* \* \* \* \*

(e) \* \* \* \* \*

(1) [Reserved]

11. Section 74.462 is amended by removing the entry containing the single text “kHz” in the Frequencies column and the entry for frequencies 1606, 1622, and 1646 from the table in (b).

12. Section 74.464 is amended by removing the entry for frequency range 1.6 to 2 MHz, the entry for 200 W or less, the entry for over 200 W, and footnote 1 from the table.

**PART 80---STATIONS IN THE MARITIME SERVICES**

13. The authority citation for Part 80 continues to read as follows:

AUTHORITY: Secs. 4, 303, 307(e), 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e), 309, and 332, unless otherwise noted. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

14. Section 80.373 is amended by adding note 1 to the last two frequencies in the table in paragraph (d)(1) and by adding note 3 to the first six frequencies in the table in paragraph (i) to read as follows:

**§ 80.373 Private communications frequencies.**

\* \* \* \* \*

(d) Radioprinter frequencies. (1) The following table describes the bands available for radioprinter simplex communications between ship and private coast stations:

## FREQUENCY BANDS (kHz)

2107-2170	4750-4850
2194-2495	5060-5450
2505-2850	5700-5950 <sup>1</sup>
3155-3400	7300-8100 <sup>1</sup>
4438-4650	

<sup>1</sup>After April 1, 2007, use of the sub-bands 5900-5950 kHz and 7300-7350 kHz shall be on the condition that harmful interference is not caused to HF broadcasting.

\* \* \* \* \*

(i) \* \* \*

## PRIVATE COMMUNICATIONS IN ALASKA CARRIER FREQUENCIES (kHz)

1619.0 <sup>3</sup>	* * *	* * *
1622.0 <sup>3</sup>		
1643.0 <sup>3</sup>		
1646.0 <sup>3</sup>		
1649.0 <sup>3</sup>		
1652.0 <sup>3</sup>		
1705.0 <sup>3</sup>		
* * *		

\* \* \* \* \*

<sup>3</sup>Use of these frequencies is on a secondary basis to Region 2 broadcasting.

\* \* \* \* \*

15. Section 80.387 is amended by revising the table in paragraph (b) by adding new footnote 4 to the first seven entries in the first column and by adding new footnote 5 to the last entry in the third column of the table of carrier frequencies.

**§ 80.387 Frequencies for Alaska fixed stations.**(b) Alaska private-fixed station frequencies:

Carrier Frequencies (kHz)		
1643.0 <sup>4</sup>	*	*
1646.0 <sup>4</sup>		
1649.0 <sup>4</sup>		
1652.0 <sup>4</sup>		
1657.0 <sup>4</sup>		
1660.0 <sup>1,4</sup>		
1705.0 <sup>4</sup>		
*	*	*
.....	.....	<sup>2,5</sup> 11601.5

\* \* \* \* \*

<sup>4</sup>Use of these frequencies is on a secondary basis to Region 2 broadcasting.<sup>5</sup>After April 1, 2007, use of the frequency 11601.5 kHz shall be on the condition that harmful interference is not caused to HF broadcasting.

\* \* \* \* \*

**PART 90---PRIVATE LAND MOBILE RADIO SERVICES**

16. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

17. Section 90.20 is amended by revising the table in paragraph (C)(3) to remove the frequency 1630 kHz.

**§ 90.20 Public Safety Pool.**

\* \* \* \* \*

(c) \* \* \* \* \*

(3) Frequencies.

PUBLIC SAFETY POOL FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations	Coordinator
Kilohertz			
530.....	.....	1.....	PX
1610.....	Base (T.I.S.).....	1.....	PX
1722	Base or mobile.....	2, 3.....	PP
*	*	*	*

18. Section 90.35 is amended by (1) revising the kilohertz portion of the table in paragraph (b)(3) to remove the frequencies 1614 kHz, 1628 kHz, 1652 kHz, 1676 kHz, and 1700 kHz; (2) revising the megahertz portion of the table in paragraph (b)(3) to add limitation 9 to the frequencies 25.12 MHz, 25.14

MHz, 25.16 MHz, 25.18 MHz, and 25.20 MHz; and to add the frequencies 27.555 MHz, 27.615 MHz, 27.635 MHz, 27.655 MHz, 27.765 MHz, and 27.86 MHz in numerical order; (3) removing paragraph (c)(2); and (4) adding paragraph (c)(82) to read as follows.

**§ 90.35 Industrial/Business Pool.**

\* \* \* \* \*

(b) \* \* \* \* \*

(3) Frequencies.

INDUSTRIAL/BUSINESS POOL FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations	Coordinator
Kilohertz			
2000 to 25000.....	Fixed, base or mobile...	1	
2292.....	Base or mobile.....	4, 5, 7	
2398.....	.... do.....	5, 7	
4637.5.....	.....do.....	5, 7	
Megahertz			
*       *	*       *	*       *	*
25.12	.....do.....	9.....	IP
25.14	.....do.....	3, 4, 9.....	IP
25.16	.....do.....	9.....	IP
25.18	.....do.....	3, 4, 9.....	IP
25.20	.....do.....	9.....	IP
*       *	*       *	*       *	*
27.555	Base or mobile	82	
27.615	.....do.....	82	
27.635	.....do.....	82	
27.655	.....do.....	82	
27.765	.....do.....	82	
27.86	.....do.....	82	
29.71	.....do.....		
*       *	*       *	*       *	*

(c) \* \* \* \*

\* \* \* \* \*

(2) [Reserved]

\* \* \* \* \*

(82) The frequency may be assigned only to entities meeting the definition of a forest product licensee (see § 90.7). Operations are on a secondary basis to Federal Government operations including experimental stations, will not exceed 150 watts output power, and are limited to the states of Washington, Oregon, Maine, North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi, Louisiana, and Texas (eastern portion).

\* \* \* \* \*

19. Section 90.103 is amended by revising the table in paragraph (b), by revising paragraph (c)(4), and by removing paragraphs (28) and (29).

**§ 90.103 Radiolocation Service.**

(b) Frequencies available. \* \* \*

RADIOLOCATION SERVICE FREQUENCY TABLE

Frequency or Band	Class of station(s)	Limitation
Kilohertz		
70 to 90.....	Radiolocation land or mobile	1
90 to 110.....	Radiolocation land.....	2
110 to 130.....	Radiolocation land or mobile	1
1705 to 1715.....	...do.....	4, 5, 6
1715 to 1750.....	...do.....	5, 6
1750 to 1800.....	...do.....	5, 6, 7
*	*	*

(c) \* \* \* \* \*

(4) The non-Federal Government radiolocation service in this band is on a secondary basis to stations in the aeronautical radionavigation service operating on 1708 kHz.

\* \* \* \* \*

(28) [Reserved]

(29) [Reserved]

\* \* \* \* \*

20. Section 90.263 is amended by revising the third sentence to read as follows:

**§ 90.263 Substitution of frequencies below 25 MHz.**

\* \* \* In such cases, a substitute frequency, if found to be available, may be assigned from the following bands: 1705-1750 kHz, 2107-2170 kHz, 2194-2495 kHz, 2506-2850 kHz, 3155-3400 kHz, or 4438-4650 kHz. \* \* \*

\* \* \* \* \*

**PART 97--AMATEUR RADIO SERVICE**

21. The authority citation for Part 97 continues to read as follows:

AUTHORITY: 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609, unless otherwise noted.

22. Section 97.401 is amended by removing paragraph (b) and by redesignating paragraphs (c) and (d) as (b) and (c), respectively.

**§ 97.401 Operation during a disaster.**

\* \* \* \* \*